22-108

SECRETARY'S MINUTES
WATER CONSERVATION ADVISORY BOARD
August 7, 1986

The Water Conservation Advisory Board convened in a regular session at 1:30 P.M., Thursday, August 7, 1986.

The roll was called and the minutes were approved as read.

Mr. Steve Knell briefly outlined three new projects that he has been working on since starting work at the District. The District has arranged for the reporting of CIMIS, Evapotranspiration Data each day in the newspaper. The curriculum for an irrigation training program has been started, and the first draft of an Irrigation and Salinity Manual has been completed.

Resolution 86-1 which was prepared by the Incentives Committee was reviewed. After a lenghty discussion several changes were made in the resolution. Earl Sperber moved to accept the resolution as changed. The motion was seconded by John Veysey. A unanimous vote was cast in favor of the resolution.

Mr. Larry Gilbert reported that the nomination committee had not met and had no recommendations at this time.

The poor attendence records of several memeber of the WCAB were reviewed. After discussion, all six members of the WCAB present at the meeting declared the positions now held by Edward Menvielle and George Stergios vacant as provided for in the Bylaws of the WCAB. Both members had missed more than ten meetings. The Directors, Condit and Edwards, will be notified of the action taken.

The meeting was adjourned. The next meeting will be held October 2, 1986 at 1:30 p.m. in the Board of Directors Room.

The Effects of Main Supply Canal Fluctuations on Distribution Laterals

By Karen I. Holdsworth[1] and Robert J. Lang[2]

The Imperial Irrigation District operates 1,680 miles of irrigation canals which serve 465,000 acres of farm land. During a typical year the District distributes 2.5 million acre-feet of water through 5,600 delivery gates. All of this water comes from the Colorado River via the All-American Canal.

As greater demands are made on the Colorado River, it is essential that all its users strive to conserve water. In 1985, the District published a water conservation plan. Included in this plan was a joint project with the USDA to study causes and effects of water level fluctuations along the canal system.

There are several possible causes for water level fluctuations. This paper will focus on the impact of East Highline Canal fluctuations on two adjacent laterals, Myrtle and Munyon. The East Highline Canal is 45 miles long and has a capacity of 2,600 feet^3/second at its heading. More than 70 laterals are serviced by the East Highline Canal. Seven checks are used to regulate flow along this canal and maintain pond levels for the distribution laterals.

The heading of Myrtle Lateral is located just upstream of a check; the Munyon heading is just downstream of the same check. The flows into Myrtle and Munyon laterals are controlled by vertical slide gates. These gates are adjusted manually by a Hydrographer in the morning and checked periodically throughout the day and night. The East Highline checks are adjusted periodically to meet downstream flow requirements. These adjustments also alter pond levels, thus affecting the amount of water entering each lateral. Several hours might elapse before the lateral head gates are adjusted accordingly.

Some questions that will be addressed include:

1. To what extent do water level fluctuations on the East Highline Canal affect flows to the side laterals?
2. How far do these effects propogate down the laterals?
3. Is there a significant difference between East Highline Canal fluctuations at the heading of Myrtle Lateral and the heading of Munyon Lateral?

Answering these questions is an important first step in improving water delivery accuracy.

---

1. Karen I. Holdsworth, Assistant Engineer, Imperial Irrigation District
2. Robert J. Lang, Senior Engineer, Imperial Irrigation District

REVISED 9/17/86

Imperial Irrigation District
Water Conservation Task Group

Notes on Meeting of September 12, 1986

All members present

1. Status of Programs.

a. Lateral Fluctuation - Jesse Silva distributed a copy of an Abstract entitled "The Effects of Main Supply Canal Fluctuations on Distribution Laterals" (copy attached). This is an abstract of a paper to be presented by Karen Holdsworth and Bob Lang at a future ASCE conference.

Jesse Silva reported that several graph programs have been developed to show fluctuation on the Myrtle and Munyon laterals. The results thus far show that there are fewer fluctuations of lower magnitude at the Myrtle heading than at the Munyon; the Myrtle being upstream from the Myrtle check and the Munyon below.

Bradley reports that metering of the weirs is continuing. Similarly, Welch reports that tailwater measurements continue to be collected for this program. Additional broadcrested weirs need to be installed on several head ditches.

The report being prepared in Water Engineering will cover the following topics:

1. Purpose
2. Program
3. Results
4. Goal for 1987

b. Tailwater Recovery:

Benson System: Only a small portion of the tailwater is being recovered. Tailwater discharge to District drains continues high.

Smith System: It has been reported that the pump shuts off periodically. Checks by District personnel have not determined any problems; so far pump has been running during each observation.

Mallory System: Pump not being used. Welch has encouraged him to use the pump especially during one last cotton irrigation. The pond drains by seepage between irrigations.

Nilson System: Not currently irrigated.

Veysey: Flat flooded north field, operated pump with only 5% tailwater.

Scaroni: Wheeler reports that pipe and pump will be installed within the next few weeks; awaiting completion of other projects.

The Effects of Main Supply Canal Fluctuations on Distribution Laterals

By Karen I. Holdsworth[1] and Robert J. Lang[2]

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As greater demands are made on the Colorado River, it is essential that all its users strive to conserve water. In 1985, the District published a water conservation plan. Included in this plan was a joint project with the USDA to study causes and effects of water level fluctuations along the canal system.

There are several possible causes for water level fluctuations. This paper will focus on the impact of East Highline Canal fluctuations on two adjacent laterals, Myrtle and Munyon. The East Highline Canal is 45 miles long and has a capacity of 2,600 feet^3/second at its heading. More than 70 laterals are serviced by the East Highline Canal. Seven checks are used to regulate flow along this canal and maintain pond levels for the distribution laterals.

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Answering these questions is an important first step in improving water delivery accuracy.

---

1. Karen I. Holdsworth, Assistant Engineer, Imperial Irrigation District
2. Robert J. Lang, Senior Engineer, Imperial Irrigation District

PROPOSED SCHEDULE

IID WATER CONSERVATION PROGRAM

EIR

1.	IID/Parsons PFEIR Review Meeting	8/12 - 8/13/86
2.	Incorporated Revisions to date	8/14 - 8/19/86
3.	General Manager presentation to IID Board (Decision to sent out for an additional review)	8/19/86
4.	Received additional comments from law firm, Latham and Watkins	8/20/86
5.	Evaluated impact of comments (#4 above)	8/21 - 8/22/86 Date of Schedule
6.	Advised IID of need to hold IID/Legal/Parsons review meeting to resolve legal comments, determine schedule/responsibility for remaining actions (meeting proposed 8:00 AM on Sept. 4, 1986)	8/22/86
7.	Planned receipt of additional legal comments - Statement of Findings	8/27/86
8.	Review for consistency with previous legal comments and determine additional actions required. Prepare for review meeting scheduled on Sept. 4, 1986	8/28 - 8/29/86
9.	Attend California Fish and Game meeting with IID (Brown, Hunt, McNairy)	9/3/86 - 1:00 PM
10.	Attend IID/Parsons FEIR review meeting to resolve remaining comments (Legal, Fish and Game, etc.)	9/4/86 - 8:00 AM (Proposed)
11.	Revise, type and reproduce 200 copies of FEIR and Statement of Findings and Overriding Considerations (Concurrently, the Board resolution and NOD should be revised as required).	9/5 - 9/12/86

12.	Mail out copies to the public, public notice, etc. (10 day public review period). Revise presentation to IID Board of Directors (9/15 - 9/30)	9/15/86
13.	Receive and begin evaluation of additional comments, if any.	9/30/86
14.	If completed with evaluation and disposition of comments above, schedule action by the IID Board	10/7/86
15.	File NOD with County Clerks and State (IID)	21 10/10/86

1/21/86

Nov 4, 1986

IID-353

IMPERIAL IRRIGATION DISTRICT
INTER-OFFICE MEMORANDUM

TO General Manager

COPIES TO K. K. Fontaine

DATE September 8, 1986

FROM Executive Officer

DEPARTMENT

AT El Centro

SUBJECT 1987 Budget Requests
Water Conservation Unit

Attached is the proposed budget for five programs as requested by Doug Welch, Supervisor Water Conservation. I recommend submission of this request as presented in order to continue our water conservation (data collection) programs in cooperation with District water users.

The budget is divided approximately equally between labor and materials (the largest item in the latter category being 130 additional electronic recorders). The request is presented in three ways:

1. Labor, equipment and materials
2. Program recap
3. Program details (Welch)

It is anticipated that the Water Department budget will contain additional costs for the Lateral Fluctuation and Tailwater Recovery programs.

D. A. TWOGOOD

Attachment

Imperial Irrigation District
Water Conservation Unit
1987 Budget Request

Labor plus vehicle:	
Water Conservation Supervisor	$55,044
Agricultural Engineers (2)	89,600
Conservation Specialist	33,800
Water Conservation Technicians (6):	
3 @ $25,233 = $75,699 3 @ $18,631 = $55,893	$131,592
Clerical Technician	22,411
Total personnel = 11 (includes additional Agricultural Engineer)	
Sub-Total: Labor/Vehicles	$327,447
Electronic Recorders (130 @ $2,120)	$ 33,000
CIMIS Station (new)	7,000
Neutron Probe equipment/supplies	14,081
Computer and supporting equipment	6,000
Mobile Office	50,000
Materials (miscellaneous)	33,000
DWR Grant	($ 25,000)
Total Budget Request	$688,128

RECAP
1987 Budget Request by Programs

Irrigation Scheduling	$251,000
Tailwater Recovery	71,334
CIMIS (excludes $25,000 DWR Grant)	214,633
Irrigation Training Program	47,633
Lateral Fluctuation Study (Water Conservation Unit only)	103,528
Total	$688,128

Imperial Irrigation District
INTER-OFFICE MEMORANDUM

To: D.A. Twogood

Date: September 8, 1986

From: Supervisor, Water Conservation

Department: Executive

Subject: 1987 Water Conservation Section Budget

Below are a few of my recommendations for the Districts' 1987 on-farm water conservation program. This list is by no means comprehensive.

IRRIGATION SCHEDULING PROGRAM	
-1 water conservation specialist	$ 33,800
-3 water conservation technicians	$ 55,892
-½ man-yr. water conservation supervisor	$ 25,022
-½ man-yr. clerical technician	$ 11,205
-purchase 25 electronic recorders	$ 53,000
-N.P. equipment and supplies	$ 14,081
-purchase mobile office	$ 50,000
-material	$ 8,000
	$251,000
TAILWATER RECOVERY STUDY (monitoring)	
-¼ man-yr. water conservation supervisor	$ 12,511
-½ man-yr. water conservation technician	$ 12,617
-½ man-yr. agricultural engineer	$ 22,400
-½ man-yr. clerical technician	$ 11,206
-purchase 5 electronic recorders	$ 10,600
-materials	$ 2,000
	$ 71,334
COMPUTERIZED WATER MANAGEMENT STUDY (CIMIS)	
-½ man-yr. agricultural engineer	$ 22,400
-1 water conservation technician	$ 25,233
-purchase 75 electronic recorders	$159,000
-purchase computer and supporting equipment	$ 6,000
-Calif. Dept.of Water Resources (CIMIS grant)	[$ 25,000]
-materials	$ 20,000
-new CIMIS station	$ 7,000
	$214,633

IRRIGATION TRAINING PROGRAM

-train and educate farmers and irrigators to irrigate with minimum tailwater	
-1 man-yr. water conservation technician	$ 25,233
-½ man-yr. agricultural engineer	$ 22,400
	$ 47,63.(

Lateral Flucuation Study

-½ man-yr. agricultural engineer	$ 22,400
-½ man-yr. water conservation technician	$ 12,617
-¼ water conservation supervisor	$ 12,511
-purchase 25 electronic recorders	$ 53,000
-materials	$ 3,000
+ engineering personnel	$103,528
TOTAL	$688,128

Douglas G. Welch, Jr.

C 11415

STATE OF CALIFORNIA—RESOURCES AGENCY
GEORGE DEUKMEJIAN, *Governor*

DEPARTMENT OF WATER RESOURCES
1416 NINTH STREET, SACRAMENTO (916) 445-9248
P. O. BOX 942836 94236-0001

September 3, 1986

T

Mr. Charles Shreves
General Manager
Imperial Irrigation District
P. O. Box 937
333 East Barioni Boulevard
Imperial, CA 92251

Dear Mr. Shreves:

Thank you for your recent letter with the proposal for reestablishment of a Department of Water Resources' (DWR) weather station near Westmorland. We are very interested in working with you on reestablishing the station. Your offer to help maintain this station, in addition to the other two CIMIS stations, is gladly accepted and will help ensure the quality of the data.

Our Southern District staff person on CIMIS, David Inouye, will continue to work with Doug Welch of your staff in trying to develop a plan for establishment of stations in Imperial. We are aware that there is also some interest by the University of California to purchase weather stations for the CIMIS network and place one at the Meloland Field Station. Also, we have been told by a local consultant that there may be interest in purchasing a station for the CIMIS network by local growers in the Westmorland area. I believe that these interests by others should be investigated to ensure that there is good cooperation and that there will be no duplication.

We will supply another weather station and give you the lead in developing a plan for weather station locations in Imperial. This kind of cooperation is imperative to the success of CIMIS and to the improvement in irrigation management we hope to achieve. David Inouye will continue to be DWR's lead person for the CIMIS program in Imperial. He can be reached by phone at (213) 620-4721.

Sincerely,

Tom Hawkins

Tom Hawkins
Agricultural Water Conservation Branch
Office of Water Conservation

cc: David Inouye
Department of Water Resources
Southern District Office
P. O. Box 6598
Los Angeles, CA 90053

I	GM General Manager	
I	AGM Asst. Gen. Manager	
I	WD Water Department	
	PD Power Department	
	OP Operations Services	
	FA Finance & Accounting	
	PE Personnel Department	
I	XO Executive Officer	
	LE Legal Counsel	
	PI Public Information	
	SA Safety	
	RE Real Estate	
	AU Auditor	
	SCI Security, Claims	
	GF General Files	
	PA Parsons	
I	Doug Welch	

Shreves/gar/339-9220

IIDGM

July 19, 1986

Mr. Edward M. Hallenbeck, Regional Director
U. S. Bureau of Reclamation
P. O. Box 427
Boulder City, NV 89005

Dear Mr. Hallenbeck:

This is in response to your letter of July 7, 1986 (LC-727) concerning the Imperial Irrigation District Canal Lining and System Improvement (CLSI) Study as provided in Cost Sharing Agreement No. 5-AG-30-03490.

The IID concurs with the proposed changes and amended scope of work outlined in the referenced letter. We look forward to continuing this relationship.

Sincerely,

Charles L. Shreves

CHARLES L. SHREVES
General Manager

9CLSI

IID-353

IMPERIAL IRRIGATION DISTRICT
INTER-OFFICE MEMORANDUM

IIDGM

TO Board of Directors

COPIES TO

DATE July 11, 1986

FROM DEPARTMENT General Manager

AT Imperial

SUBJECT Letter from Bureau: Cost-Sharing Study

The attached letter from the Bureau was received on July 10 concerning the ongoing study which we have been sharing on a 50-50 basis. The Bureau has suggested changes in the agreement whereby they complete the East Highline Canal seepage study (with our support) and complete remote sensing data analysis. They would not do any additional work on the operation analysis of the East Highline because our engineering staff is working to develop an operational model.

Recommend approval of this request.

Charles L. Shreves
CHARLES L. SHREVES

Attach.
9CLSIS2

United States Department of the Interior

BUREAU OF RECLAMATION
LOWER COLORADO REGIONAL OFFICE
P.O. BOX 427
BOULDER CITY, NEVADA 89005

IN REPLY
REFER TO LC-727

JUL 7 1988

Mr. Charles L. Shreves
General Manager
Imperial Irrigation District
P.O. Box 937
Imperial, California 92251-0937

Dear Mr. Shreves:

Our office has been conducting the Imperial Irrigation District Canal Lining and System Improvement (CLSI) Study with the Imperial Irrigation District (IID) sharing costs on a 50/50 basis as provided in Cost Sharing Agreement No. 5-AG-30-03490. After initiating the study, a number of events have caused a reevaluation of the Federal role in the CLSI study and an accompanying change in the scope of work to be performed by Reclamation.

After the cost-sharing agreement was finalized and the study was initiated, the IID hired the Parsons Water Resources Company (Parsons) and other consultants to assist the IID in developing and implementing a comprehensive conservation program. Many of the tasks to be performed by the consultants appeared to duplicate CLSI study activities.

Subsequently, we held a series of meetings with you, your staff, and the consultants to identify an appropriate Federal role in your conservation program. During these meetings, you and your staff indicated a preference for private funding and construction of conservation features but desired continued Federal participation in the development of your conservation program. Based upon the consultants' interest and expertise and a desire for continued Federal participation, the following Reclamation activities were requested by your staff.

1. Complete the detailed East Highline Canal seepage study as planned.

2. Finish analysis of remote sensing data to identify riparian vegetation types and to determine potential seepage areas along the East Highline and other major canals.

3. Develop a mathematical model to perform an operational analysis of the East Highline Canal and associated laterals.

Parsons and other consultants would be involved in all other phases of developing and implementing a conservation program, preparing the necessary environmental impact reports, identifying users of conserved water, and identifying sources of funding to finance conservation activities.

We have considered the expressed role of the consultants, probable lack of Federal involvement in future construction activities, recent budget cuts, and staff availability in considering your requests. We propose amending the Scope of Work, Section 3, of Cost-Sharing Agreement No. 5-AG-30-03490 to include the following:

1. Completion of the East Highline Canal seepage study. The IID will continue collecting field data. Reclamation will compile field data, perform the analysis, and document the study. Since urgency for completion of the study no longer exists, field data collection will continue through December 1986. Compilation of field data will occur as the field data are collected and provided to Reclamation. Completion of the analysis and report preparation is anticipated for June 1987.

2. Completion of the remote sensing data analysis. The final report from the Engineering and Research (E&R) Center in Denver is expected shortly and will be provided to you.

The operational analysis of the East Highline Canal will not be part of the study because the Regional Office lacks staff capability to complete the study. We also recently learned that your engineering staff is working to develop an operational model and we encourage your efforts.

Your written concurrence to the proposed changes will amend the Scope of Work accordingly. All other provisions of the Cost-Sharing Agreement will remain unchanged.

A revised cost estimate for the remainder of the study is enclosed for your information. If we may be of further assistance, please call Mr. Michael Stuver at (702) 293-8548.

Sincerely Yours,

Roy O. Kerr

ACTING

Edward M. Hallenbeck
Regional Director

Enclosure

CANAL LINING AND SYSTEM IMPROVEMENT STUDY
ESTIMATED STUDY COSTS FOR FISCAL YEAR 1986-87

TASK	FISCAL YEAR 1986 1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total	FISCAL YEAR 1987 1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total	Study Total
Imperial Irrigation Dist. (IID)											
Collect Field Data			4,500	4,500	9,000	4,500				4,500	13,500
Key-in 85 & 86 Op. Data			1,675	1,675	3,350	1,675	1,675			3,350	6,700
Subtotal			6,175	6,175	12,350	6,175	1,675	0	0	7,850	20,200
Contiongencies (15%)			930	930	1,860	930	250	0	0	1,180	3,040
Compited In-Kind service		54,840			54,840					0	54,840
IID Total		54,840	7,105	7,105	69,050	7,105	1,925	0	0	9,030	78,080
Bureau of Reclamation (USBR)											
Prep. Data for Analysis			1,200		1,200		3,600			3,600	4,800
Digitize Charts			1,450	2,350	3,800	2,350	1,450			3,800	7,600
Complete Initial Data Prep			6,700		6,700					0	6,700
Program Deviopment & testing				6,700	6,700					0	6,700
Analyze One-Reach Seepage				2,400	2,400					0	2,400
Compute Flows at Boundaries					0	1,200				1,200	1,200
Analyze Multi-Reach Seepage					0	5,025				5,025	5,025
Compute 85-86 Seep w/Op Dat					0		1,200			1,200	1,200
Compute 85 Seep w/Fld Data					0		4,800			4,800	4,800
Complete & Document Study					0			6,700		6,700	6,700
Complete Remote Sensing Anal.			20,000		20,000					0	20,000
F&WS Coordination				8,000	8,000					0	8,000
E&R Center Review					0			5,000		5,000	5,000
General Expense (40%)			11,740	7,780	19,520	3,430	4,420	4,680		12,530	32,050
Expenses to Date	36,780	43,990			80,770					0	80,770
Subtotal	36,780	43,990	41,090	27,230	149,090	12,005	15,470	16,380	0	43,855	192,945
Contingencies (15%)			6,160	4,080	10,240	1,800	2,320	2,460	0	6,580	16,820
USBR Total	36,780	43,990	47,250	31,310	159,330	13,805	17,790	18,840	0	50,435	209,765
Total Study Cost (USBR + IID)	36,780	98,830	54,355	38,415	228,380	20,910	19,715	18,840	0	59,465	287,845
Federal Share (50%)					114,190					29,730	143,920
IID Share (50%)					114,190					29,730	143,920
IN-Kind Services					69,050					9,030	78,080
Cash Portion					45,140					20,700	65,840
Less Cash Payments					41,640						41,640
Estimated Cash Due					3,500					20,700	24,200

CORRECTED COPY

Imperial Irrigation District
Water Conservation Unit
1987 Budget Request

Labor plus vehicle:	
Water Conservation Supervisor	$55,044
Agricultural Engineers (2)	89,600
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Materials (miscellaneous)	33,000
DWR Grant	($ 25,000)
Total Budget Request	$688,128

IMPERIAL IRRIGATION DISTRICT

Water Conservation Task Group

Notice of Meeting

Friday, September 12, 1986
3:00 p.m.

Water Department Conference Room

A G E N D A

1. Status of Programs:

   (a) Lateral Fluctuation
   (b) Tailwater Recovery
   (c) Other

2. 1987 Water Conservation Budget Recommendation

DAT-9/9/86

cc: C. L. Shreves
J. R. Wilson
Task Group (D. A. Twogood, G. C. Wheeler, J. P. Silva, D. G. Welch, B. L. Bradley)

Imperial Irrigation District
Water Conservation Task Group

Notes on Meeting of Wednesday, August 20, 1986

1. CIMIS Program. A letter is being sent by Mr. Shreves to DWR requesting reinstallation of the CIMIS Station formerly located in Westmorland.

Doug Welch reported that a DWR representative will be down next Wednesday to look at sites for the reinstallation. The proposal has been made that the DWR will reinstall that station, provided the District installs a new station in the southwest area of the District.

Twogood reports that the McKim station will be relocated to Verde School. The ET information furnished by the District is now being printed in the Imperial Valley Press.

2. DWR Loan. On or about September 2, 1986, the additional information requested by DWR in their July 9, 1986, letter should be transmitted. Twogood reports that he will be sending a request to legal counsel to respond to Items E.1, E.2, and E.3.

Bob Lang, in Jesse Silva's absence, reported that site selection and design for the spill collector is continuing, but will not be completed prior to September 2, 1986. Similarly, additional work will be necessary for the South Alamo lining project. Twogood advises that he will prepare a transmittal letter to be sent on or about September 2, 1986, transmitting as much information as possible and requesting that approval be given to go ahead on the Trifolium Project.

3. Lateral Fluctuation. Bob Lang has been in Imperial this week to help with the programming of data collected from the lateral fluctuation study to develop reports and graphs in usable form. The gathering of data will continue.

Bradley reports that Water Control hydrographers will rate 9 broad-crested weirs this week. Doug Welch and Jesse Silva have been planning for the installation of some portable weirs to control backwater on delivery gates. The tentative schedule is to install these in November.

4. 1987 Budget. Twogood passed out excerpts from the 1986 update (pages 85, 87, and 88) which are to be used for preparing the water conservation portion of the water department budget. George Wheeler furnished copies of pages 11, 12, and 13 of the operating report (financial data) for the month ending 7/31/86, which are to be used for preparing the budget.

The consensus of the task group is that the data collection programs must be continued, as well as the pumpback, tailwater monitoring and irrigation scheduling.

With reference to the USBR/IID cooperative studies, it was suggested that the Bureau needs to be contacted and asked to come to the Valley to discuss this program. George Wheeler will talk to Bob Wilson about this.

5. Other. Some general discussion concerning the various programs centered on two main subjects: (a) the lack of cooperation by Benson Farms in the pumpback study, and (b) the reporting of changes in deliveries. Several farmers are moving water several times a day, for which there is no record.

D. A. TWOGOOD, Chairman,
Water Conservation Task Group

Copies to:
C. L. Shreves
J. R. Wilson
Task Group (G. C. Wheeler, J. P. Silva, D. G. Welch, B. L. Bradley)

IMPERIAL IRRIGATION DISTRICT
OPERATING HEADQUARTERS • P O BOX 937 • 333 EAST BARIONI BOULEVARD • IMPERIAL CA 92251

August 15, 1986

Mr. Robert B. Luckey, Chairman
Water Conservation Advisory Board
371 Duarte Street
Brawley, CA 92227

Dear Brad:

The Water Conservation Advisory Board normally appoints a committee to hear appeals of growers who believe they have been unjustly given a multiple charge because of a tailwater assessment. There are presently three cases pending, which are: Charles Nilson, Mike Claverie, and John Benson.

Please notify me not later than September 2, 1986 who will represent the WCAB to hear these appeals, or state whether the WCAB desires to continue having representation to hear these requests. If you have no further desire to participate in this program, it is my intention to recommend to the General Manager that he so advise the Board of Directors, and that the decisions be made at the senior management or Board level.

Sincerely,

G. C. WHEELER
Assistant Manager
Water Department

IIDGM

August 15, 1986

Mr. Mark N. Osterkamp
Osterkamp Farms, Inc.
455 S. Rio Vista Avenue
Brawley, CA 92227

Dear Mark:

This is in response to your letter of August 7, 1986. I appreciated your comments concerning the "slight combativeness on the part of the IID supervisors to the procedural changes." However, I probably don't view it as seriously as you or perhaps others in the audience may have. I have emphasized in leadership and management classes, to them and other supervisors, that the "Decision" is not a point of departure for further discussion. I have encouraged them to state what is on their mind prior to the time the decision is made; however, once a decision is made, they are expected to carry it out completely. I feel confident that they will support any decision the Board reaches or that I give them.

Concerning the issue of the 12-hour run, please recognize that it would be, at this time, a problem for the District if we were to implement it. Once the grower has terminated use of water after 12 hours, the District then has to "dispose" of it. In some cases this water could be sold to another grower, given away, or spilled as operational discharge. In many cases, this water will end up in the Salton Sea, which is certainly not to the advantage of IID or to Imperial Valley. Once a spill collector system has been installed and water can be returned to the south to be re-entered into the system, the 12-hour run will be much easier to incorporate and resistance to it will fall away. The only other viable way to establish the 12-hour run at the moment appears to be a system similar to that used by the Salt River Project, which is to have the District dictate when the water will arrive and be cut off, because it will have been scheduled by them for the next grower down the line who has ordered water, and is forced to take it at (perhaps) 3:00 a.m. or some such undesirable time.

Your ideas on this and any other subject are always welcome, and I greatly appreciate your concern and your assistance to the Water Conservation Advisory Board in preparing the evaluation of items which they have incorporated into their resolution.

Sincerely,

CHARLES L. SHREVES
General Manager

10MARK1

OSTERKAMP FARMS, INC.
455 SO. RIO VISTA AVENUE
BRAWLEY CALIFORNIA 92227

Mr. [illegible] Shreves
Imperial Irrigation District
P. O. Box 937
Imperial, CA 92251

Dear Mr. Shreves:

I enjoyed chatting with you while attending the Water Conservation Advisory Board meeting.

One item I'd like to bring up that occured to me after I had left was the very important effect the attitude of the division supervisors will have on the implementation and effectiveness of the incentives and procedural changes.

During the meeting I noticed a slight combativeness on the part of the IID supervisors to the procedural changes (i.e. the 12 hour run). I got the feeling that the gentlemen view these changes as one more problem shoved down their throats by the farmers or the WCAB. In effect they are right. However, there needs to be a reminder as to why these changes are being made, which is (as you are most aware of) our battle with the level of the sea.

I don't know all the division supervisors but the ones I do know are pretty sharp people. These men could be given the new procedures and allowed to come up with their own ways of implementing them. Maybe then it would not be so much of a "them against us" attitude. The incentive committee, of which I was a member, was simply trying to figure ways where, with a relatively small change in procedure and small amount of cost, some water might be conserved.

Let's put it this way. If the supervisors were asked to provide measures to do the same thing under the same conditions, what would they propose? There will be plenty of criticism, I'm sure, which I hope will be constructive. We need their help.

I'm sorry if I have belabored the point, since I'm sure you were already aware of it. Good luck!

Sincerely,

Mark N. Osterkamp

MNO/bp

SECTION 5

Accomplishments January 1985 through April 1986

This section will describe the water conservation programs proposed and accomplished for calendar year 1985, the proposed and budgeted programs for 1986, and the accomplishments through the first four months of 1986.

Table VI.1 in the 1985 Water Conservation Plan was a summary of programs planned for calendar year 1985. Budgeted expenditures totalled about $6.4 million. The water conservation fund balance on December 31, 1984 was $2,787,300. Anticipated revenue for water conservation, based on 2.3 maf in water sales and accruals into the Water Conservation Fund at $1.75/A,F was about $4 million, thus providing total conservation funds of about $6.8 million.

Table 5.1 compares 1985 actual expenditures with major water conservation work order numbers. Total expenditures for conservation as reported by the Finance and Accounting "Operating Report" dated 12/31/85, were:

Table 5.1
1985 Budget and Actual Expenditures
For Water Conservation

Work Order No.	Item	Expenditure	Budget
640.1 - 640.2	Reservoirs	23,876	$1,200.000
657.5000	Concrete Lining	$3 245,308	2 250,000
660.0 - 660.2	Tailwater Monitoring	483,968	444,000
660.3	Tile Recorders, Misc. Programs	53,361	194,400 1/
660.4 - 670.2	Lateral Fluctuation	0	100,000
671.5	USBR Cooperative Studies	41,169	162,000
661.1 - 661.3	Irrigation Scheduling	215,018	188,600
671.6	Tailwater Recovery	632,757	300,000 2/
671.7	Electronic Recorders	343,514	
671.2	Elder Evaporation Pond	913	102,300
680.0 - 681.0	Parsons' Studies	1,241 145	1,500,000
Total		$6,281,029	$6,441,300

1/ Distributed from miscellaneous programs including personnel training, conservation education, additional personnel, etc.

2/ Included in other programs (Tailwater Recovery, Lateral Fluctuation, Irrigation Scheduling, etc.

Source: Concrete Lining per Water Department
All other figures from monthly "Operating Report" dated 12/31/85

Table 5.2

WATER CONSERVATION BUDGET
1986

PROGRAM	COST THOUSAND
WATER BALANCE ACCOUNTING	
Tailwater Monitoring	$ 50
Leaching Requirement	60
Electronic Recorders	280
STRUCTURAL PROGRAMS	
Canal Lining	2,250
Regulatory Reservoir (land purchase)	200
Lateral Interceptor System	250
Elder Evaporation Pond	110
OPERATIONAL PROGRAMS	
Remote Control Study	60
Samples & Tests, Drainage	24
ADMINISTRATIVE PROGRAMS	
Tailwater Assessment	300
EDUCATIONAL PROGRAMS	
Pilot Tailwater Recovery Systems	100
Conservation Education	2.5
Field Irrigation Demonstration	2.5
Irrigation Training	10
COOPERATIVE PROGRAMS	
USBR Cooperative Study	132
USDA Lateral Fluctuation	100
Irrigation Scheduling	260
SCS Water Conservation	40
RESEARCH PROGRAMS	
Mid Lateral Reservoir Study	50
CIMIS/Computerized Water Mgmt. Study	142
Water Requirement and Availability Study (Parsons)	1,500
SUBTOTAL	5,923
OVERHEAD CHARGES	2,005
TOTAL	$7,928

Water Conserv.
Task Group
9/11/85
Rev. 10/30/85

Table 5.3
Water Conservation Expenditures
January through April 1986

Work Order No.	Item	Expenditure
640.1 - 604.2	Reservoirs	--
657.5000	Concrete Lining	$ 718,028
660.0 - 660.2	Tailwater Monitoring	97 452
660.3	Tile Recorders	33,831
660.4 - 670.2	Lateral Fluctuation	44 761
671.5	USBR Cooperative Studies	25 845
661.1 - 661.3	Irrigation Scheduling	38 289
671.6	Tailwater Recovery	75 617
671.7	Electronic Recorders	358 994
671.2	Elder Evaporation Pond	--
680.0 - 681.0	Parsons' Studies	376 692
	Total Expenditures	$1 769 509

Source: Concrete Lining per Water Department
All other figures from monthly "Operating Report" dated 4/30/86

IID-353

IMPERIAL IRRIGATION DISTRICT
INTER-OFFICE MEMORANDUM

TO	Chief Legal Counsel	DATE	August 20, 1986
COPIES TO	C. L. Shreves	FROM	Executive Officer
		DEPARTMENT AT	El Centro
		SUBJECT	DWR Loan Application

Attached is a letter from the DWR Office of Water Conservation dated July 9, 1986, requesting additional information in regard to the District's loan application.

Also attached is Mr. Edwards' letter dated July 15, 1986, providing a schedule and partial response to the DWR letter.

We intend to extract Section F from Chapter 1 "Summary of Water Rights" of our 1985 Water Conservation Plan in response to Item D.

I request that you prepare a response to Items E.1., E.2., and E.3., of the DWR letter and submit to me before August 28, 1986, since we plan to complete our filing on or about September 2, 1986.

D. A. TWOGOOD

Attachments

STATE OF CALIFORNIA—RESOURCES AGENCY
GEORGE DEUKMEJIAN, *Governor*

DEPARTMENT OF WATER RESOURCES
1416 NINTH STREET. SACRAMENTO (916) 445-9248
P. O BOX 942836 94236-0001

July 9, 1986

Mr. Charles L. Shreves
General Manager
Imperial Irrigation District
P. O. Box 937
Imperial, CA 92251

Dear Mr. Shreves:

This is to request additional information regarding your application for a loan from the Water Conservation Account of the Clean Water Bond Law of 1984.

We are requesting this information on your three applications which:

- Requested $670,000 to install a lateral interceptor system to collect excess water from five laterals.
- Requested $1,600,000 to construct Trifolium Reservoir to capture excess irrigation water.
- Requested $680,000 to construct the South Alamo Canal.

Your application which requested $2,050,000 for concrete lining did not have a high enough benefit to cost ratio to be included in the top group of applicants for loans. Proposition 44 which was passed on June third provides additional funding and you may want to consider reapplying for funding under that program.

As you know, you have been placed on the priority list in the top group of applicants based on the costs and benefits of your proposed project. In order to make the final determination of loan recipients, we will need to evaluate the following information on your agency's proposed project:

A. Project plans including:

1. Preliminary plans and specifications for the project including cost estimates.
2. Statement of who will be performing the work (applicant's staff or a contractor).
3. Construction inspection plan.
4. Construction schedule.
5. Plan to comply with the statutes concerning dam safety.

B. Plan to meet the requirements of the California Environmental Quality Act (CEQA). (The final contract must be accompanied by an approved final Environmental Impact Report (EIR) or Negative Declaration or a statement that the project is otherwise exempted from CEQA.)

Final determination of loan recipients will be made following an evaluation of this information. Information requested may be submitted in part as it becomes available. Please send the requested information to:

Donald C. Heath
Office of Water Conservation
Department of Water Resources
P.O. Box 942836
Sacramento, CA 94230-0001

Please inform us within two weeks of your schedule to provide this information. We will make a final determination on your application within 30 days after we receive and approve all required information.

We look forward to working with you on this effort. If you have any questions, please contact Don Heath at (916) 324-1097 or Christopher Carr at (916) 322-4425.

Sincerely,

Jonas Minton for

Suzanne Butterfield, Chief
Office of Water Conservation

IIOXO

Twogood/gmd/339 0586
July 15, 1986

Mr. Donald C. Heath
Office of Water Conservation
Department of Water Resources
P.O. Box 942836
Sacramento, CA 94230-0001

Dear Mr. Heath:

Subject: Water Conservation Loan Application

In response to your letter of July 9, 1986, requesting additional information, regarding our application for a water conservation loan under the Clean Water Bond Law of 1984, we are pleased to provide a schedule for submission of the requested information.

A public hearing has been scheduled for August 19, 1986, on a Negative Declaration for the Trifolium Reservoir project. Within ten days following that hearing we intend to submit a complete response to your July 9, 1986, letter, taking into account information being transmitted herewith as follows:*

Item A. Attachment A - Project plans and other data, as listed in the July 9 letter, for the Trifolium Project (drawings under separate cover).

Item B. Attachment B - Plan to meet requirements of CEQA.

Item C. Attachment C - Resolution No. 31-85 by the Imperial Irrigation District Board of Directors authorizing the President to apply and contract for a loan under the Clean Water Bond Law of 1984.

Item E. 6. Attachment E consists of Annual District Reports for 1983, 1984, and 1985. These reports contain complete financial statements for these three calendar years, which are the District's fiscal years.

Item F. Attachment F - Resolution 62-82 by the District Board of Directors adopting Policies and Procedures for making of contracts to perform services, among other things, and providing (Section II, 3) for competitive bidding for purchases of supplies and equipment for items costing more than $3,000 per unit. Section II, 6 provides that contracts for services may be done by formal bidding or by informal service agreement. This latter provision has normally been applied to professional services, and the District usually, if not always, calls for competitive bidding for construction work, and is willing to stipulate to this condition for all work over $10,000.

* Items refer to those listed in DWR letter dated July 9, 1986.

TITLE	CURRENT	BUDGET	%	TO-DATE	BUDGET	VARIANCE	%
CANAL & STRUCTURE MAINT - MATERIAL	1185.63	2416.00	50.9	17319.67	16912.00	407.67-	2.4-
CANAL & STRUCTURE MAINT - TRANS	2696.03	5516.00	51.1	47165.62	38612.00	8553.62-	22.2-
CANAL & STRUCTURE MAINT - OTHER		8.00			56.00	56.00	
658.3000 CANAL & STRUCTURE MAINT	12463.59	16840.00	33.9	116521.49	131936.00	15414.51	11.7
BRUSH WEED MOSS CONTROL - LABOR	12957.70	9391.00	38.0-	72162.40	65737.00	6425.40-	9.8-
BRUSH WEED MOSS CONTROL - MATERIAL	10852.67	3000.00	261.8-	12217.90	21000.00	8782.10	41.8
BRUSH WEED MOSS CONTROL - TRANS	836.14	2225.00	62.4	16072.67	15575.00	497.67-	3.2-
BRUSH WEED MOSS CONTROL - OTHER				53.99		53.99-	
658.4000 BRUSH WEED MOSS CONTROL	24646.51	14616.00	68.6-	100506.96	102312.00	1805.04	1.8
CONCRETE LINING - LABOR	997.00	1708.00	41.6	5647.18	11956.00	6308.82	52.8
CONCRETE LINING - MATERIAL		225.00		718.35	1575.00	856.65	54.4
CONCRETE LINING - TRANS	329.15	316.00	4.2-	5157.35	2212.00	2945.35-	133.2-
CONCRETE LINING - OTHER							
658.5000 CONCRETE LINING	1326.15	2249.00	41.0	11522.88	15743.00	4220.12	26.8
DRAIN & STRUCTURE MAINT - LABOR	4830.93	6200.00	22.1	19966.28	43400.00	23433.72	54.0
DRAIN & STRUCTURE MAINT - MATERIAL		166.00			1162.00	1162.00	
DRAIN & STRUCTURE MAINT - TRANS	1437.61	6675.00	78.5	37085.86	46725.00	9639.14	20.6
DRAIN & STRUCTURE MAINT - OTHER							
658.6000 DRAIN & STRUCTURE MAINT	6268.54	13041.00	51.9	57052.14	91287.00	34234.86	37.5
PIPELINE MAINTENANCE - LABOR		58.00		141.44	406.00	264.56	65.2
PIPELINE MAINTENANCE - MATERIAL		16.00			112.00	112.00	
PIPELINE MAINTENANCE - TRANS		8.00		46.50	56.00	9.50	17.0
PIPELINE MAINTENANCE - OTHER							
658.7000 PIPELINE MAINTENANCE		82.00		187.94	574.00	386.06	67.3
BRUSH WEED MOSS CONTROL - LABOR	4824.32	5550.00	13.1	34700.28	38850.00	4149.72	10.7
BRUSH WEED MOSS CONTROL - MATERIAL	8127.76	691.00	1076.2-	18602.48	4837.00	13765.48-	284.6-
BRUSH WEED MOSS CONTROL - TRANS	1003.37	1516.00	33.8	14909.82	10612.00	4297.82-	40.5-
BRUSH WEED MOSS CONTROL - OTHER		8.00			56.00	56.00	
658.8000 BRUSH WEED MOSS CONTROL	13955.45	7765.00	79.7-	68212.58	54355.00	13857.58-	25.5-
*TOTAL CALIPATRIA	102992.23	108237.00	4.8	696630.41	757659.00	61028.59	8.1
**TOTAL DIVISIONS	574978.12	609933.00	5.7	4017607.18	4269531.00	251923.82	5.9
WATER CONSERVATION							
WATER DEPARTMENT - ADMIN 660.0000	4768.33-			7730.06		7730.06-	
OPERATION - LABOR	10950.35	31850.00	40.5	141173.33	222950.00	81776.67	36.7
OPERATION - MATERIAL		625.00		26.25	4375.00	4348.75	99.4
OPERATION - TRANS	1840.74	1791.00	2.8-	18687.62	12537.00	6150.62-	49.1-
OPERATION - OTHER	382.16	583.00	34.4	1724.14	4081.00	2356.86	57.8
660.1000 OPERATION	21173.25	34849.00	39.2	161611.34	243943.00	82331.66	33.8
MAINTENANCE - LABOR	2104.01	4833.00	56.5	16487.69	33831.00	17343.31	51.3
MAINTENANCE - MATERIAL		1175.00			8225.00	8225.00	
MAINTENANCE - TRANS	432.33	450.00	3.9	4315.94	3150.00	1165.94-	37.0-
MAINTENANCE - OTHER		25.00			175.00	175.00	

TITLE	CURRENT	BUDGET	%	TO-DATE	BUDGET	VARIANCE	%
660.2000 MAINTENANCE	2536.34	6483.00	60.9	20803.63	45381.00	24577.37	54.2
O & M TILE RECORDERS - LABOR	785.87	291.00	170.1-	8423.60	2037.00	6386.60-	313.5-
O & M TILE RECORDERS - MATERIAL				17306.97		17306.97-	
O & M TILE RECORDERS - TRANS	73.02	16.00	356.4-	537.22	112.00	425.22-	379.7-
O & M TILE RECORDERS - OTHER		125.00		51.16	875.00	823.84	94.2
660.3000 O & M TILE RECORDERS	858.89	432.00	98.8-	26318.95	3024.00	23294.95-	770.3-
LATERAL FLUCTUATION - LABOR	4064.53			41902.28		41902.28-	
LATERAL FLUCTUATION - MATERIAL	6580.89			8121.24		8121.24-	
LATERAL FLUCTUATION - TRANS	76.56			4527.99		4527.99-	
LATERAL FLUCTUATION - OTHER				2936.30		2936.30-	
660.4000 LATERAL FLUCTUATION STUDY	10721.98			57487.81		57487.81-	
USER CONSERVATION STUDIES 660.5000	615.36	11000.00	94.4	27589.82	77000.00	49410.18	64.2
CONSV SECTION - ADMIN 665.0000	1957.97			2901.07		2901.07-	
OPERATION - LABOR	11536.96	12791.00	9.8	62716.13	89537.00	26820.87	30.0
OPERATION - MATERIAL	21.49	1483.00	98.6	5626.05	10381.00	4754.95	45.8
OPERATION - TRANS	1312.07	1325.00	1.0	17583.30	9275.00	8308.30-	89.6-
OPERATION - OTHER		5841.00		1172.46-	40887.00	42059.46	97.1
665.1000 OPERATION	12870.52	21440.00	40.0	84753.02	150080.00	65326.98	43.5
MAINTENANCE - LABOR	253.85	366.00	27.9	2800.62	2562.00	238.62-	9.3-
MAINTENANCE - MATERIAL	1846.10	258.00	615.5-	3666.22	1806.00	1860.22-	103.0-
MAINTENANCE - TRANS	23.68	250.00	90.5	817.89	1750.00	932.11	53.3
MAINTENANCE - OTHER		141.00			987.00	987.00	
665.2000 MAINTENANCE	2133.63	1015.00	110.2-	7284.73	7105.00	179.73-	2.5-
O & M DEMO PUMPBACK - LABOR	1776.07			7199.20		7199.20-	
O & M DEMO PUMPBACK - MATERIAL				1750.04		1750.04-	
O & M DEMO PUMPBACK - TRANS	80.75			524.54-		524.54	
O & M DEMO PUMPBACK - OTHER	258.00			1419.00		1419.00-	
665.3000 O & M DEMO PUMPBACK	2114.82			9843.70		9843.70-	
ENVIRONMENTAL IMPACT REP 665.4000		25000.00		590.49	175000.00	174409.51	99.7
PARSON'S STUDY 665.5000	876.05	125000.00	99.3	613536.37	875000.00	261463.63	29.9
TILE RECORDERS PURCHASE 670.1000	375.73			12340.00		12340.00-	
LATERAL FLUCTUATION PURCH 670.2000	43.38			9496.71		9496.71-	
ELDER EVAPORATION POND - LABOR							
ELDER EVAPORATION POND - MATERIAL				3.72		3.72-	
ELDER EVAPORATION POND - TRANS							
ELDER EVAPORATION POND - OTHER							
670.3000 ELDER EVAPORATION POND				3.72		3.72-	
DEMO PUMPBACK PURCHASES 675.1000	183.72-	8500.00	97.8	77519.81	59500.00	18019.81-	30.3-

TITLE	CURRENT	BUDGET	%	TO-DATE	BUDGET	VARIANCE	%
ELECT WATER RECORDER PURCH 675.2000	1150.00	21041.00	94.5	360733.61	147287.00	213446.61-	144.9-
PARSON'S CAPITAL PURCH 675.3000				22232.84		22232.84-	
*TOTAL WATER CONSERVATION	54948.87	254760.00	78.4	1508365.53	1783320.00	274954.47	15.4
SPECIAL PROJECTS							
HYDRILLA - LABOR	13866.55	13150.00	5.4-	45927.24	92050.00	46122.76	50.1
HYDRILLA - MATERIAL				1318.17		1318.17-	
HYDRILLA - TRANS	1304.89	2666.00	51.1	17719.99	18662.00	942.01	5.0
HYDRILLA - OTHER	9598.10	225.00	4165.8-	10178.40	1575.00	8603.40-	546.2-
680.1000 HYDRILLA	24769.54	16041.00	54.4-	75143.80	112287.00	37143.20	33.1
WHITE AMUR - LABOR		4558.00		3209.63	31906.00	28696.37	89.9
WHITE AMUR - MATERIAL				4611.14		4611.14-	
WHITE AMUR - TRANS		483.00		98.54	3381.00	3282.46	97.1
WHITE AMUR - OTHER	1332.08	11841.00	88.8	16627.80	82887.00	66259.20	79.9
680.2000 WHITE AMUR	1332.08	16882.00	92.1	24547.11	118174.00	93626.89	79.2
PUMP EQUIP STORAGE - LABOR							
PUMP EQUIP STORAGE - MATERIAL							
PUMP EQUIP STORAGE - TRANS							
PUMP EQUIP STORAGE - OTHER		416.00			2912.00	2912.00	
685.1000 PUMP EQUIP STORAGE		416.00			2912.00	2912.00	
PUMP REPLACEMENT - LABOR		875.00		25.65	6125.00	6099.35	99.6
PUMP REPLACEMENT - MATERIAL							
PUMP REPLACEMENT - TRANS							
PUMP REPLACEMENT - OTHER		5833.00			40831.00	40831.00	
685.2000 PUMP REPLACEMENT		6708.00		25.65	46956.00	46930.35	99.9
RADIO BASE - LABOR	1730.10	91.00	1801.2-	11045.24	637.00	10408.24-	1633.9-
RADIO BASE - MATERIAL							
RADIO BASE - TRANS							
RADIO BASE - OTHER							
685.3000 RADIO BASE	1730.10	91.00	1801.2-	11045.24	637.00	10408.24-	1633.9-
*TOTAL SPECIAL PROJECTS	27831.72	40138.00	30.7	110761.80	280966.00	170204.20	60.6
MAIN DRAINS & DRAIN OUTLETS							
ADMINISTRATION - LABOR	12611.88	9216.00	36.8-	77869.07	64512.00	13357.07-	20.7-
ADMINISTRATION - MATERIAL	45.22	91.00	50.3	329.25	637.00	307.75	48.3
ADMINISTRATION - TRANS	268.00	250.00	7.2-	3462.24	1750.00	1712.24-	97.8-
ADMINISTRATION - OTHER		50.00		171.56	350.00	178.44	51.0
690.0000 ADMINISTRATION	12925.10	9607.00	34.5-	81832.92	67249.00	14583.92-	21.7-
MAIN DRAINS							
SALINITY INVESTIGATION - LABOR		25.00			175.00	175.00	
SALINITY INVESTIGATION - MATERIAL							

IMPERIAL IRRIGATION DISTRICT

Water Conservation Task Group

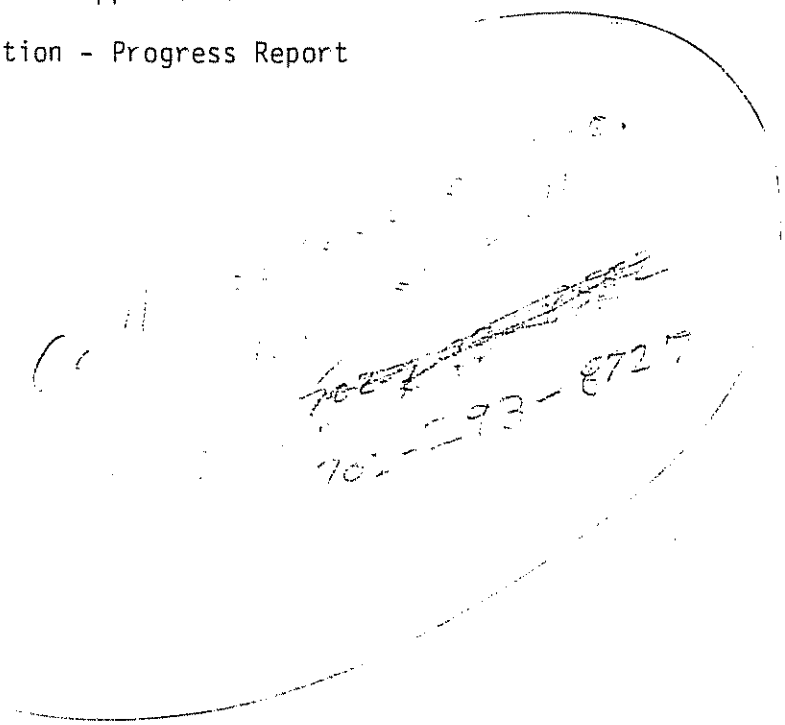
Notice of Meeting

Wednesday, August 20, 1986
3:00 p.m.

Water Department Conference Room

A G E N D A

1. CIMIS Program - Status
2. DWR Loan - Complete Application
3. Lateral Fluctuation - Progress Report
4. 1987 Budget
5. Other



8/12/86-DAT

Copy to: Mr. C. L. Shreves
Mr. J. R. Wilson
Task Group (G. C. Wheeler, J. P. Silva, D. G. Welch, B. L. Bradley)

SECRETARY'S MINUTES
WATER CONSERVATION ADVISORY BOARD
July 10, 1986

The Water Conservation Advisory Board convened in a regular session at 1:30 P.M., Thursday, July 10, 1986.

The roll was called and the minutes were approved as read.

Brad Luckey announced that the incentive subcommittee had prepared an interim report (copy attached) for review by the Board. The report contains recommendations for the immediate implementation of five items. Larry Gilbert moved that the interim report be accepted. The motion was seconded by Don Cox. The motion carried.

The incentive subcommittee will work out the details for the five incentives and present them at the next WCAB meeting.

The chairman opened the meeting to nominations for the office of chairman. Several members were nominated but declined. The chairman appointed Don Cox, J.C. Reeves and Larry Gilbert to serve as a nomination committee.

The meeting was adjourned. The next meeting will be held August 7, 1986 at 1:30 p.m., in the Board of Directors Room.

MEETING NOTICE

The Water Conservation Advisory Board will hold regular meeting THURSDAY, August 7, 1986 at 1:30 in the Board of Directors Room.

Wheeler

very large per acre foot unless large quantities are saved. For example if 50,000 AF are saved it amounts to $130/AF, if 100,000 then $65/AF, if 150,000 then $43/AF, if 200,000 then $33/AF. Tailwater is variously estimated at 300,000 to 400,000 AF/year. These figures do not include the cost of changes to the IID's system and procedures, which might be necessary before farmers could reduce tailwater by significant amounts. Specifically, changes would be needed to permit deliveries to more closely match field use, either by employing techniques which would greatly improve the accuracy of ordering and delivering water, or by modifying the delivery system and its operation to allow deliveries to be terminated at the time field needs are satisfied, without canal spills.

The two most promising types of tailwater-based programs are: one which pays a farmer for reducing tailwater within predetermined parameters and allows him to employ whatever means he chooses and to save as much water as is economically feasible; and one which pays a farmer for effectively operating a pumpback system to predetermined specifications.

Programs which provide a service to farmers and which would make it practical for them to conserve water without additional expense would also result in additional conservation. Services which are worthy of additional consideration include an irrigator training program, a program to train zanjeros and other appropriate water personnel, and a program by which water clerks could assist farmers to determine the amount of water needed for each irrigation, possibly in conjunction with a limited irrigation scheduling program.

Miscellaneous programs which may have promise include some form of program which would pay farmers to maintain a uniform grade with no more than a predetermined amount of main slope on the lower ends of their fields, and a program which would pay for changing the slope of a field to near dead-level.

RECOMMENDATIONS

Details of the irrigator and zanjero training programs should be developed so they can be implemented. Details of a pilot tailwater incentive, such as the $4.50 charge for delivered water and $30.00 charge for all tailwater, should be developed so it can be implemented on a trial basis to determine its effectiveness. Details should be developed for a program to allow users to order not more than 1/4 cfs for either the last or first 12 hours of the delivery day at a price of 1-1/2 times the normal charge for water received. The deadline should be changed to 4:30 pm from 3:00 pm for orders to change an order for the night half of a delivery. Additional analysis or testing will be needed before any other incentives could be recommended. Farmers installing their own electric powered pumpback systems should not be charged for standby.

GCWheeler

Water Conservation Task Group

Notes on Meeting of July 24, 1986

All members present

Agenda attached

1. Update - Status. No change: County suit dropped on condition each party pays own legal fees.

2. CIMIS. Steve in charge - Irrigation scheduling program (computer program "Roy" received, demo $100). Full program will cost about $1500. Irrigation Handbook (outline attached), proposed for (1) education; (2) irrigation training.

3. DWR Loan. Letter and Trifolium Reservoir sent. Jesse is assembling soil information for DWR.

Concrete Lining, including EIR (category exempt).

Lateral Discharge recovery - the design is complete - drawings will be ready to submit on schedule (i.e., shortly after August 19).

4. Lateral Fluctuation. Debugging hardware and software, collecting data. Preliminary report should be ready by September 1.

5. Incentives. Dick Palmer (Parsons) is preparing a draft of recommendations, including 7 points, to present to the Advisory Board August 7.

6. 1986 Loan Program. Letter's from Jesse and Twogood, regarding the drainage portion, were distributed to the Group.

A memorandum to the Board of Directors recommending application for a water conservation loan will be prepared by Twogood, at the appropriate time.

7. Other. EIR - Parsons will be submitting the report July 25, 1986. Work Sessions with staff and Parsons will be scheduled for August 12 and 13 at 9:00 a.m. Copies of the July 22, 1986, memo distributed to Water Conservation Task Group. Twogood suggested that Randy Stocker should be involved.

ASCE article attached.

East Highline. A work plan in relation to the proposed transmission line was prepared by Jesse and submitted to Mr. Wilson.

D. A. TWOGOOD, Chairman
Water Conservation Task Group

Attachments

IID-353

IIDGM

IMPERIAL IRRIGATION DISTRICT
INTER-OFFICE MEMORANDUM

TO Manager, Water Department
Executive Officer
Chief Legal Counsel
Asst. to Gen. Manager

DATE July 22, 1986

FROM General Manager

DEPARTMENT

AT Imperial

SUBJECT EIR Review

I expect to receive the draft copies of the EIR prepared by Parsons Water Resources, Inc., on July 25, 1986, and will make distribution at that time.

Please review this EIR in detail and be prepared to meet on August 12 and 13. The meeting will began at 9:30 a.m. on August 12. There will be a lot of material to discuss to establish a position, vis-a-vis the consultant's recommendations.

Prior planning prevents poor performance!

CHARLES L. SHREVES

9EIR

cc Water Conservation Task Group
Wheeler
Silva
Bradley
Welch

TABLE OF CONTENTS

7 SALINITY

- Colorado River Water
- Terminology
- AWC and Salinity
- Crop Yield Losses
- Leaching

8 DRAINAGE

- Tile Drainage
- Tile Maintenance
- Tile Management

IRRIGATION AND DRAINAGE DIVISION

Executive Committee – Tom A. Austin, Chairman; George R. Baumli, Vice Chairman; A. Ivan Johnson; Conrad G. Keyes, Jr.; Ernest T. Smerdon; MGD Contact Member; John A. Replogle, Secretary. U.S. Water Conserv. Lb.; 4331 E. Broadway, Phoenix, AZ 85040.

Survey on Artificial Recharge Planned

The Task Committee on Guidelines for Artificial Recharge of Ground Water has prepared a questionnaire seeking information on artificial recharge research, operating projects, results of practice, available publications, and contact personnel. The TC hopes to present this information in an ASCE publication and eventually develop a standard.

Chairman A. Ivan Johnson reports that the Task Committee's nearly 25 members include specialists from six foreign countries as well as most areas of the United States. Universities, private industry, and state and federal agencies are represented.

The TC also plans to organize a symposium on artificial recharge, to be held not later than 1987.

Anyone interested in the work of the TC (or to receive the artificial recharge questionnaire) should contact: A. Ivan Johnson, Water Resources Consultant, 7474 Upham Court, Arvada, CO 80003; tel. 303/425-5610.

Water Conveyance Group Meets

Yet another of the I&D committees that met last July during the Division's specialty conference in San Antonio was the Water Conveyance and Distribution Committee. Its major project was to organize a Task Committee on Operation, Rehabilitation, and Automation of Irrigation Water Delivery Systems. (It will be cosponsored by the On-Farm Irrigation, Operation and Maintenance, and Project Formulation committees.)

The TC's objective will be to upgrade the planning, design and operation of systems and retrofit old systems to make possible effective use of water, land and labor at the farm level.

At the 1984 specialty conference, the On-Farm Irrigation Committee presented a paper on "Recommended Irrigation Schedule Terminology," which showed that — for best water use — irrigators must have a water supply that is flexible in frequency, rate, and duration. Frequency control allows the crop to be watered when needed to optimize production. Flow rate needs to be large enough to match labor availability, field size and soil conditions. Duration control allows flow to be cut off when enough water has been supplied for the field condition.

Since this flexibility is seldom available, new systems should incorporate the concept and old ones should be upgraded so that the farmer can utilize modern techniques of irrigation management and scheduling. Studies have indicated that crop production can be increased, water needs reduced, and farm operations made easier and less expensive with proper water schedules. To achieve this flexibility, systems must often be automated and their capacities enlarged.

The task committee plans to assemble basic theory and state-of-the-art sessions at the Division's Portland specialty conference in 1987 and it will produce a report covering all aspects of upgrading water supply systems to obtain needed flexibility.

Those who have information applicable to the TC's efforts should contact the chairman of the appropriate committee or the chairman of the task committee, Darell Zimbelman, Northern Colorado Water Conservation District, 1250 N. Wilson, Loveland, CO 80537.

Organizing a new TC to improve irrigation water delivery systems are, left to right, Martin Roche, Albert Clemmens, Len Ring, John Merriam, Charles Burt and Chairman Darell Zimbelman

MATERIALS ENGINEERING DIVISION

Executive Committee – Warren N. Lacey, Chairman; Frederick J. Lawrence; Francis G. McLean; James F. Orofino; Sherman A. Nelson. MGB Contact Member; Jim W. Hall, Jr., Secretary. Rt. 2, Box 123, Utica, MS 39175.

Warren N. Lacey

Lacey Chairs New Materials Division

Warren N. Lacey is serving as the first chairman of the new Materials Engineering Division during the 1985-86 and 1986-87 ASCE years. Lacey has been a practicing construction materials engineer for over 30 years and demonstrated his leader-

nancial resources of the owner. Various means of ing potential damages m sult in a no-risk design fl

The group planned to again (last month) in the ington, D.C. area.

Cecilio Joins HY Ex(

Catalino B. Cecilio, who charge of the hydrologic neering group in the Civil neering Department of th cific Gas and Electric Com has joined the Executive mittee of the Hydraulics sion, effective last month responsibilities with P(which owns some 200 (making it the largest h electric system of any inv owned utility in the cou have been in the hydraulic hydrology of dam safety principal expertise is in d floods, up to and includin probable maximum and

ship during petitioning an ganization of the new Divi He presented the original tion at the TAC meetin Mexico City in 1984 chaired TAC's special Cor tee on Organization of the terials Engineering Divisic

Lacey is executive vice p dent of Southwestern Lal tories, Inc., a company spe izing in materials engine and geotechnical enginee

PIPELINE DIVISION

Executive Committee – Mark B. Pickell, Chairman; Walfred E. Hensala, Vice Chairman; G. Louis Fletcher; Theodorus C. Veenhuis; William F. Quinn, MGE Contact Member; Donald L. Callahan, Secretary. 606 Rimrock Rd., Kerrville, TX 78028.

Study Shows Interest in Pipeline Crossings Increases

Rodney Browning, chairman of the Division's Committee on Pipeline Crossings of Railroads and Highways, reports that the group met in Madison, Wis. last August where it assessed results of a literature search on the state-of-the-art of pipeline crossing design and installation.

After reviewing the information, it became apparent that most of the work and research on this subject is over 20 years old, dating back to the mid-60s. One item of particular interest: several recent articles addressed the fact that examination of existing cased crossings reveal greater-than-expected corrosion of the carrier pipe. These same articles suggested that corro-

sion problems can be greatl duced by the installation o cased crossing.

Three different organizat with representatives on committee are currently volved with programs invol pipeline crossings design installation. Each said would share, as much as p ble, the information gener from their respective progr

It was suggested that committee sponsor public m ings on the subject in ord generate industry input in i tifying problems and pos solutions.

Comments and input f ASCE members are sought ter evaluating results to responses, a guidelines d ment is planned.

The committee is also as for volunteers to host pu meetings on this subject — railroad, highway and pipe interests invited to attend. one interested in partici ing in this phase of the pr should contact: Rodney Bro ing, Shepherd & Associa 6600 S. Yale Ave., Tulsa, 74136; tel. 918/496-5511.

IID-353

IIDGM

IMPERIAL IRRIGATION DISTRICT
INTER-OFFICE MEMORANDUM

TO Manager, Water Department
Executive Officer
Chief Legal Counsel
Asst. to Gen. Manager

DATE July 22, 1986

FROM General Manager

DEPARTMENT

AT Imperial

SUBJECT EIR Review

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Prior planning prevents poor performance!

Charles L. Shreves
CHARLES L. SHREVES

9EIR

File #540.21

IMPERIAL IRRIGATION DISTRICT

TILE DRAIN DISCHARGE
Progress Report
Based on Measured Discharge from Sumps
July, 1985 to June, 1986

Sumps in Program	235	
Sumps with valid measurements	213	
Miles tile (213 sumps)	2965	
Acreage tiled (213 sumps)	40621	
Calculated discharge, g.p.m. (213 sumps)	18714	
Calculated discharge, g.p.m. (each sump)	88	
Calculated discharge in A.F. per year (213 sumps)	30185	A.F.
Acre Feet per year, per sump: 30185 / 213	141.71	A.F.
Assume 516 sumps operating: Total discharge for year =	73122	A.F.

Estimated total tile effluent for 1985
based on 213 sump tests made during
the period July, 1985 to June, 1986

Cumulative miles of tile as of January 1, 1985	30192	
Discharge for 2965 miles tile	30185	A.F.
Discharge per mile of tile =	10.18	A.F.
Total discharge = 30192 x 10.18	307355	A.F.
Cumulative acres tiled as of January 1, 1985	433892	
Discharge for 40621 acres tiled =	30185	A.F.
Discharge per acre tiled =	0.74	A.F.
Total discharge = 433892 x 0.74	321080	A.F.

Note: Sump discharge determined by calculating KWH per acre foot of water pumped, from field tests. Annual discharge then computed from total KWH taken from power bills for the period July, 1985 to June, 1986.

Water Engineering Section
cc: Mr. Shreves
Mr. Twogood
Mr. Wilson
Mr. Havens

RW
Gew

IMPERIAL IRRIGATION DISTRICT

Water Conservation Task Group

~~Notice of Meeting~~

Thursday, July 24, 1986
3:00 p.m.

Water Department Conference Room

A G E N D A

1. Update - Status
2. CIMIS Program - Status
3. DWR Loan Status
4. Lateral Fluctuation
5. Incentives
6. 1986 DWR Loan Programs - Application
7. Other

7/21/86- DAT

CC C. L. Shreves
J. R. Wilson
Task Group (G. C. Wheeler, J. P. Silva, D. G. Welch, B. L. Bradley)

GCWheeler

I. GENERAL MANAGER

A. EXECUTIVE OFFICER - QUARTERLY REPORT

Water Conservation

The Water Conservation Task Group met regularly to review the implementation of the Water Conservation Plan. The 1986 Update to the Water Conservation Plan was prepared by the Task Group for submission to the Board in mid-summer.

The Irrigation Scheduling program continued with 36 growers participating, including two new growers with acreage aggregating 15,113 acres. Thirty probe sites were added and 108 sites removed. Over 100 electronic recorders were installed and are collecting water level data for the irrigation scheduling, tailwater recovery (pumpback), and lateral fluctuation studies.

The five previously installed pumpback systems were monitored, and soil and water samples collected and analyzed. Preparations were made to install the sixth pumpback system by mid-summer. Design was completed and material was on hand except for the pump.

Members of the Water Conservation Task Group met with Parsons Water Resources personnel to review and comment on Parsons' Mathematical Model study and report; and the preliminary draft of Parsons' Implementation Plan.

Three temporary employees were hired for the summer to perform field work and process field data for the various conservation programs.

Records of water levels and flow measurements were taken along the East Highline for the cooperative IID/USBR study to determine losses and other operating characteristics.

It was reported to the Task Group that over 90 percent of running heads over 1 cfs were checked for excessive tailwater during the quarter.

District representatives from the Task Group met an average of three meetings per month with five grower-members of a committee of the Water Conservation Advisory Board, to identify and evaluate incentives proposed to be offered to water users by the District to encourage onfarm water conservation. About thirty proposals were being considered. The committee plans to present its recommendations to the Advisory Board by mid-summer.

Legislation

Legislation of possible concern to the District was followed by participation in five meetings during the quarter of the ACWA Legislative Committee, and also review of a weekly status report prepared by ACWA on about 16 particular bills. Over 300 bills were reviewed during the legislative committee meetings.

WATER CONSERVATION SECTION REPORT-2ND QUARTER

IRRIGATION SCHEDULING PROGRAM

	ACRES
ALFALFA	6,405
ROW ALFALFA	2,442
BERMUDA GRASS	1,149
COTTON	833
ONIONS	316
SUGAR BEETS	2,860
WHEAT	976
LEMONS	126
JOJOBA	6
TOTAL ACRES	15,113

TOTAL NEUTRON PROBE SITES = 197
SITES ADDED THIS QUARTER = 30
SITES REMOVED THIS QUARTER = 108

NEW GROWERS TO PROGRAM = 2

TAILWATER REPORT

Entry of all the data on tailwater monitoring in 1985 has been completed and is presently being analyzed. The report should be finished sometime in August.

ELECTRONIC RECORDER STUDY

Tailwater structures on 93 fields have been set up for water monitoring with electronic recorders. Using the Easylogger has allowed a substantial increase in the amount of fields monitored due to the increased efficiency and accuracy of the unit over mechanical recorders. Some bugs have been encountered, but Omnidata has sent various support personnel to the Imperial Valley to work them out. An improved method for in the field data retrieval is being pursued and should result in even faster data uploading capability.

LEACHING REQUIREMENT STUDY

Vicki Doyle has taken over this project and should begin analysis of the data soon.

LATERAL FLUCTUATION STUDY

The Engineering Section has taken over the data acquisition and analysis portion of this program. The Water Conservation Section has continued to provide some maintenance support.

DISTRICT PUMPBACK STUDY

Two pumpback demonstrations were held, one in January and the second in April. Attendance was not very good. Only three or four farmers showed up for each demonstration. Average tailwater on the

2ND QUARTER IRRIGATION SCHEDULING REPORT

LOCATION	CROP	ACRES	SITES
** GROWER ALLEN, TIM			
MALVA 2-16	COTTON	72	2
MALVA 2-16A	WHEAT	72	1
MYRTLE 15	ALFALFA	72	1
MYRTLE 15	WHEAT	72	1
MYRTLE 17	ONIONS	144	2
MYRTLE 18	ALFALFA	144	1
TAMARACK 218	ONIONS	100	2
** Subtotal **		676	10
** GROWER BERNSEN, E.R.			
OAT 4	ALFALFA	143	1
** Subtotal **		143	1
** GROWER BONANZA FARMS			
ACACIA 67	ALFALFA	167	1
DOGWOOD 71	SUGAR BEETS	320	2
** Subtotal **		487	3
** GROWER CHIMITS, JOHN			
HEMLOCK 4	ALFALFA	140	1
HEMLOCK 65	WHEAT	72	1
PEAR 73	ALFALFA	65	1
** Subtotal **		277	3
** GROWER CLAVERIE, MIKE			
ASH 104A	ALFALFA	160	1
ASH 106	ALFALFA	35	1
ASH 55	ALFALFA	160	1
** Subtotal **		355	3
** GROWER COWELL, RICHARD			
MESQUITE 25	ALFALFA	145	1
** Subtotal **		145	1
** GROWER EMANUELLI, DON			
MAPLE 1	ALFALFA	230	1
MESQUITE 5	ALFALFA	130	1
MESQUITE 6	ALFALFA	145	1
MYRTLE 5 & MULLEN 6	COTTON	145	2
** Subtotal **		650	5
** GROWER FIFIELD L & C			
MAYFLOWER 20	BERMUDA GRASS	70	1
MAYFLOWER 20A	BERMUDA GRASS	70	1

2ND QUARTER IRRIGATION SCHEDULING REPORT

LOCATION	CROP	ACRES	SITES
** Subtotal **		426	6
** GROWER LEE, BRAD			
DAHLIA 65A	SUGAR BEETS	80	2
NO. DATE 79A	SUGAR BEETS	80	2
ROSE 37	ROW ALFALFA	72	1
ROSE 41A	JOJOBA	6	3
RUBBER 29	ROW ALFALFA	65	1
** Subtotal **		303	9
** GROWER LEIMGRUBER, RON			
ASH 49-B	ALFALFA	156	1
** Subtotal **		156	1
** GROWER LYNCH, WALTER			
MESQUITE 23	ALFALFA	145	1
MESQUITE 24	ALFALFA	145	1
** Subtotal **		290	2
** GROWER LYONS, HERSHAL			
ELDER 45 F-1	ALFALFA	41	1
ELDER 56B	ALFALFA	150	1
** Subtotal **		191	2
** GROWER MALLORY, GEORGE			
TRIFOLIUM 8-153 N	COTTON	67	1
TRIFOLIUM 8-153 S	ALFALFA	72	1
** Subtotal **		139	2
** GROWER MEYERS, BOB			
MYRTLE 7	COTTON	30	2
** Subtotal **		30	2
** GROWER NILSON, WALTER			
ASH 61E	ALFALFA	161	1
** Subtotal **		161	1
** GROWER OLESH, THOMAS JR			
MUNYON 2	ALFALFA	130	1
MUNYON 3	ALFALFA	35	1
MUNYON 4	ALFALFA	110	1
MUNYON 4-A	ALFALFA	35	1
MUNYON 5	ALFALFA	35	1

Final determination of loan recipients will be made following an evaluation of this information. Information requested may be submitted in part as it becomes available. Please send the requested information to:

Donald C. Heath
Office of Water Conservation
Department of Water Resources
P.O. Box 942336
Sacramento, CA 94230-0001

Please inform us within two weeks of your schedule to provide this information. We will make a final determination on your application within 30 days after we receive and approve all required information.

We look forward to working with you on this effort. If you have any questions, please contact Don Heath at (916) 324-1097 or Christopher Carr at (916) 322-4425.

Sincerely,

Jonas Minton for

Suzanne Butterfield, Chief
Office of Water Conservation

SECRETARY'S MINUTES
WATER CONSERVATION ADVISORY BOARD
May 15, 1986

The Water Conservation Advisory Board convened in a regular session at 1:30 P.M., Thursday, May 15, 1986.

The roll was called and the minutes were approved as read.

Mr. Doug Welch presented some data on the IID's Demonstration Tailwater Recovery Systems. He gave a summary of John C. Veysey's system on the Newside Lateral, announcing this system was averaging 0.1% tailwater.

Mr. Steve Knell was introduced as the District's new Water Conservation Agricultural Engineer.

Mr. Twogood announced that the IID had a possiblity of receiving a loan for $2 - 3 million, at 5% interest, from the Department of Water Resources.

Chairman Brad Luckey said that the Incentives Subcommittee has had four meetings so far. Thirty incentives have been identified, and they will be evaluated in the next few weeks.

The meeting was adjourned. The next meeting will be held July 10, 1986 at 2:00 p.m., in the Board of Directors Room.

Copies for Board/Staff July 10, 1986

June 23 - 27, 1986

Task Group Review of 6/19/86 Draft

G. Davies: Complete Tables and Exhibits (number pages, including exhibits and tables) - type corrections as submitted, number pages after all text submitted.

Prepare contents

Welch: Complete Irrigation Scheduling subsection
Furnish photo/drawing of electronic recorder

Silva: Prepare cover - Date: June 30, 1986
(photo/drawing of pumpback)

Twogood: Edit and Review and Proof Draft

Task Group: Meet 6/26/86 3:00 p.m. for final review

June 30 - July 3, 1986

Wheeler/Silva: Tie up loose ends - arrange for printing/assembly

July 7 - 9, 1986

Wheeler/Silva: Print and assemble 50 copies (10 copies on/before 7/10/86)

DAT-6/20/86

G. C. Wheeler

Water Conservation Task Group

Notes on Meeting of June 20, 1986

Notice with Agenda mailed June 17, 1986

Mr. Bradley on vacation

1. Plan Update - Mr. Twogood distributed schedule for completion of Update (copy attached).

Goal is to complete assembly of 10 copies by July 10, 1986 for Board approval on July 15, 1986.

Consensus that goal will be met. Twogood assigned Wheeler the task to complete assembly after final report is delivered to him on/before July 3, 1986.

2. CIMIS - Doug furnished draft of Quarterly Progress Report being sent to DWR (copy attached).

3. DWR Loan - Jesse reports letter from Heath (DWR) coming per telephone contact.

Twogood mentioned need to be preparing for 1986 application since Proposition 44 passed.

4. Other - (a) Scaroni pumpback

Doug and Jesse plan meeting in field with Scaroni

(b) Irrigation Scheduling - Doug reports progress report on irrigation scheduling is due. He will provide brief data for inclusion in Update, and furnish copies of complete report to Task Group when completed. Need to publicize results was discussed.

Copies to:

C. L. Shreves
J. R. Wilson
Task Group

6//9/86

TO: Patti Seastrom-Price
Project Manager
Department Water Resources
P.O. Box 942836
Sacramento, Ca. 94236-0001

Re: Quarterly Progress Report
DWR Agreement # B-55647
Imperial Irrigation District-DWR CIMIS Grant

Dear Ms. Seastrom-Price,

This is to outline Imperial Irrigation District's accomplishments towards fulfilment of its DWR contract to develop a computerized scheduling program in cooperation with CIMIS.

1. An Agricultural Engineer has been added to the Water Conservation ~~Department~~ Section effective 5/27/86. Steve Knell will be responsible for the development of the Cimis-Irrigation Scheduling portion of the Agreement. He had attended the Irrigation Evaluation Short Course at Cal Poly prior to his District appointment.

2. On 6/5/86 Mr. Knell met with Crop Care Inc. in Fresno to review their irrigation scheduling software. A Demo disk has been ordered from Crop Care at a cost of $100 to further determine its applicability to Districts needs.

3. A second Demo disk has already been obtained from J.M. Lord. This is also a scheduling software program and is currently under review.

4. Purchase of an irrigation scheduling software program is estimated to cost between $1200-1600. Purchase of a software package is expected by August.

5. Fifty electronic recorders have been purchased from Omnidata at approximately $1800/recorder for a total cost of $90,000. These recorders are currently being used to measure flow quanities onto and off of fields to determine irrigation efficiencies within the 15,000 acre study area. As soon as a scheduling software package is purchased it will be incorporated into the existing program to provide and assist growers in their irrigation scheduling.

IID-353

IMPERIAL IRRIGATION DISTRICT
INTER-OFFICE MEMORANDUM

IIDGM

TO Don A. Twogood, Chief
Water Conservation Task Group

COPIES TO

Mr. Wilson

W.C. Task Group Wheeler

DATE June 20, 1986

FROM DEPARTMENT General Manager

AT Imperial

SUBJECT Tailwater Recovery Systems

I concur with the comments of the Water Conservation Task Group as outlined in your memorandum of June 9, 1986. Approval is, therefore, given for the application of Regulation 32 to authorize the District forces to accomplish limited field survey, including a profile along the lower edge of a landowner's field.

I believe that to do more, i.e., design of an individual tailwater recovery system, would require specific Board authorization as we would be competing with private engineers.

Charles L. Shreves
CHARLES L. SHREVES

REG32

Water Conservation Plan Update

Tentative Schedule for Completion of Report

Goal: Final Report to Board July 15, 1986

Copies for Board/Staff July 10, 1986

June 23 - 27, 1986

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Furnish photo/drawing of electronic recorder

Silva: Prepare cover - ~~Date - June 30, 1986~~ ~~(photo/drawing of pumpback)~~ use left over covers from 1985

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July 7 - 9, 1986

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DAT-6/20/86

IMPERIAL IRRIGATION DISTRICT

Water Conservation Task Group

Notice of Meeting

Friday, June 20, 1986
3:00 p.m.

Water Department Conference Room

A G E N D A

1. Update - Review and discussion of draft
   - Schedule for completion
2. CIMIS Program-Status
3. DWR Loan - Status
4. 1986 DWR Loan Programs
   - Application
   - Drainage
   - Water Conservation
5. Other
6. Water schedule for Growers report & Terminate.
7.

DAT-6/17/86

cc: C. L. Shreves
J. R. Wilson
Task Group (D. A. Twogood, G. C. Wheeler, J. P. Silva, D. G. Welch, B. L. Bradley)

IID-353 GCWheeler

IIDXO

IMPERIAL IRRIGATION DISTRICT
INTER-OFFICE MEMORANDUM

TO General Manager

DATE June 9, 1986

COPIES TO J. R. Wilson
Task Group

FROM DEPARTMENT AT Executive Officer
El Centro

SUBJECT Tailwater Recovery Systems

Jesse Silva reports that he has received requests for engineering services by the District for tailwater recovery systems. The Water Conservation Task Group discussed this matter and concluded that there appears to be a need to clarify or establish a policy covering this situation.

Under the current Rules and Regulations certain engineering services by the District are authorized. Regulation 15 provides that the District furnish the maximum water elevation at delivery gates, which sometimes requires special field surveys.

Regulation No. 32 authorizes surveys and investigations by the District for (a) concrete head ditches, (b) farm drainage investigations, and (c) canal and lateral seepage investigations.

Regulation 15 (b) 2. would appear to allow the District to provide a ground surface profile for an open drain outlet which might be interpreted to include a tailwater recovery system.

Copies of District Regulations 15 and 32 are attached.

With your approval, limited field survey data, including a profile along the lower edge of a landowner's field, can be performed by the Engineering Section under Regulation No. 32. It would appear that further work, up to designing individual tailwater recovery systems, would require specific Board authorization. An obvious question in that instance is whether the District should compete with private engineers.

The Water Conservation Task Group recommends that you consider approval of the application of Regulation No. 32 as described above. Furthermore, if numerous requests for design services are received, Board approval can be sought at that time.

D. A. TWOGOOD

Attachments

REGULATION NO. 32.

SURVEYS AND INVESTIGATIONS:

(A) SURVEYS FOR CONCRETE HEAD DITCHES

LANDOWNERS WHO CONTEMPLATE INSTALLATION OF LINED HEAD DITCHES OF ANY TYPE, EITHER NEW CONSTRUCTION OR THE REBUILDING OF EXISTING FACILITIES, SHALL FILE AN APPLICATION WITH THE DISTRICT FOR A DELIVERY INVESTIGATION OF THE PROPERTY CONCERNED. THIS APPLICATION SHALL STATE THE MAXIMUM QUANTITY OF WATER DESIRED, THE LOCATION OF HEAD DITCHES TO BE LINED, THE TYPE OF LINING TO BE USED, THE CROSS SECTIONAL AREA OF DITCH AVAILABLE FOR CARRYING WATER, AND ANY OTHER DATA REQUIRED FOR MAKING THE DELIVERY INVESTIGATION.

UPON RECEIPT OF SUCH AN APPLICATION, THE DISTRICT WILL MAKE A FIELD INVESTIGATION AND/OR SURVEY AND, IF NECESSARY, WILL PREPARE A PLAT OF SUCH SURVEYS FROM WHICH WILL BE DETERMINED THE HIGH-WATER ELEVATION AVAILABLE TO THE LANDOWNER FOR HIS IRRIGATION FACILITIES. THE DISTRICT WILL SET A PERMANENT REFERENCE POINT TO SHOW THE HIGH-WATER ELEVATION AND WILL FURNISH THE LANDOWNER A COPY OF ITS SURVEY PLAT, IF ANY.

THE DISTRICT WILL NOT ASSUME RESPONSIBILITY FOR THE ADEQUACY OF DESIGN OR SATISFACTORY OPERATION OF PRIVATELY CONSTRUCTED IRRIGATION FACILITIES, NOR DOES IT ASSUME ANY LIABILITY FOR THE ACCURACY OR ADEQUACY OF ITS SURVEYS PERFORMED IN CARRYING OUT THESE INVESTIGATIONS.

(B) FARM DRAINAGE INVESTIGATIONS

THE DISTRICT WILL, UPON RECEIPT OF A WRITTEN APPLICATION FROM A LANDOWNER, MAKE THE INITIAL FARM DRAINAGE INVESTIGATION AND RECOMMENDATION ON NOT LESS THAN 40 ACRES OF EITHER EACH NOMINAL 160-ACRE PARCEL OR OF EACH OWNERSHIP WHERE OWNERSHIP IS LESS THAN 160 ACRES. WHERE INDIVIDUAL OWNERSHIP IS LESS THAN 40 ACRES (BUT GREATER THAN 5 ACRES) THE FARM DRAINAGE INVESTIGATION WILL BE MADE ONLY ON THE ENTIRE OWNERSHIP. THE SERVICES PERFORMED BY THE DISTRICT WILL CONSIST OF AND BE LIMITED TO THE FOLLOWING:

1. SOIL AND WATER TABLE INVESTIGATION TO DETERMINE THE DRAINAGE INSTALLATION TO BE RECOMMENDED.

2. GROUND SURFACE PROFILE FOR ESTABLISHING TILE DRAIN AND/OR OPEN DRAIN OUTLET ELEVATIONS INTO DISTRICT DRAIN.

3. FURNISH THE LANDOWNER AND/OR TILE CONTRACTOR WITH CONSTRUCTION DRAWINGS SHOWING RECOMMENDED LOCATION, SIZE, LENGTH, ELEVATION AND AVERAGE DEPTH OF TILE LINE.

4. DETERMINE LOCATION AND PROVIDE ELEVATION REFERENCE POINTS FOR OUTLETS INTO DISTRICT DRAINS.

5. Provide construction stakes for tile lines to be installed adjacent to District facilities when the number, location and elevation of lines are as recommended by the District.

6. Assist landowners in securing private rights of way, where such are required.

Any reinvestigation or other engineering work not included in the foregoing will be the responsibility of the individual landowner.

The District will make such investigation and recommendation in accordance with District's current practices; however, the District will not assume responsibility for the adequacy of design or the satisfactory operation of privately constructed drainage facilities.

(c) Canal and Lateral Seepage Investigations

Upon receipt of written request from a landowner and there appears to be excessive seepage from a canal or lateral, the District will make a seepage investigation to determine what corrective action is necessary.

Regulation No. 33.
Water Salvage & Underground Recovery:

(a) Reason For

The hydrology of the Colorado River indicates that the future water supply may be inadequate to meet downstream requirements, which makes it imperative that the District, as well as all downstream diverters, make every effort to salvage and re-use all ground water of a suitable quality that can be feasibly recovered.

Under Section 22078 of the Water Code, State of California, cited on page 2 herein "A district may... recapture and salvage any water ... for the beneficial use or uses of the district..."

(b) Interceptor Drains

The District may install at its own expense underground pipeline interceptor drains where it is feasible to salvage underground seepage and drainage water of a suitable quality. Discharge from interceptor drains will be either pumped or delivered by suitable means by the District to the District's canal system at District expense.

REVISED

IMPERIAL IRRIGATION DISTRICT

Water Conservation Task Group

Notice of Meeting

Thursday, June 5, 1986
3:00 p.m.

Water Department Conference Room

A G E N D A

1. Tailwater Recovery Program +
2. Lateral Fluctuation Study +
3. CIMIS Program +
4. DWR Loan - Status +
5. Water Conservation Update +
6. Other —
7. RER #889 Water is ready for board action (who sends)
8.

D. A. Twogood

PLEASE NOTE DATE CHANGE.

DAT-5/28/86

cc: C. L. Shreves
J. R. Wilson
Task Group (D. A. Twogood, G. C. Wheeler, J. P. Silva, D. G. Welch, B. L. Bradley)

IMPERIAL IRRIGATION DISTRICT

Water Conservation Task Group

Notice of Meeting

Friday, June 6, 1986
3:00 p.m.

Water Department Conference Room

A G E N D A

1. Tailwater Recovery Program
2. Lateral Fluctuation Study
3. CIMIS Program
4. DWR Loan - Status
5. Water Conservation Update
6. Other

DAT-5/27/86

cc: C. L. Shreves
J. R. Wilson
Task Group (D. A. Twogood, G. C. Wheeler, J. P. Silva, D. G. Welch, B. L. Bradley)

George Wheeler

1. Assemble pertinent tables and information from 1985 Water Department Report.

2. Prepare description of Canal Lining program generally (brief) and specific 1985-86 program. Give reasons for selection.

3. Describe Tailwater Assessment program briefly (refer to water conservation plan); present facts and figures (monthly tables) on number of checks, assessments, total amount of assessments, etc.

4. Record of charges on gate tampering.

5. Describe revisions to water-run records, etc. del. - [redacted] changed

6. Application of 21-point program - needs for revisions.

7. Other pertinent information relating to water conservation.

List Attached
Two good 5/12/86

Task Force Committee
Update of Water Conservation Plan for 1986

1. IID Water Control Section tailwater monitoring summary.

   A. Net
   B. Gross

2. Comparison Report 1985 & 1986 through April.

3. Water assessment records.

4. Concrete lining costs, mileage, etc., 1985 & 1986 through April with proposal for remainder of 1986 concrete construction, should funds become available.

5. Water delivered and method of charges by zanjeros; 1986 tailwater assessments.

6. Concrete lining program.

7. IID water transportaion map and time - Hoover Dam to water user.

8. Tile discharge progress report.

9. Historic use of Colorado River water by four first three-priority agricultural users (acre-feet).

10. Lateral canal mileage as of December 31, 1985, by Divisions.

11. Canal & drain mileage as of December 31, 1985.

12. Summary of concrete lined canals and farm ditches.

13. Drain mileage as of December 31, 1985, by Divisions.

14. Inventory of structures December 31, 1985.

15. IID concrete lining (costs) - 1954 through 1985.

16. 1985 water delivered to towns or cities & population.

17. Number of miles of tile installed - 1929 through 1986.

18. Tons of sediment removed by desilting basins at Imperial Dam - 1961-1986.

19. Salton Sea evaporation report.

20. Salinity of water below Drop No. 1 AAC - 1955 through 1970.

21. Summary of salt balance excluding water and salt from Mexico - 1958-1986.

22. Water recovery drains parallel to EHL Canal - 1970-1985.

Water Conservation Task Group

Notes on Meeting of May 2, 1986

All members present

Agenda attached

1. Lateral Fluctuation Study. Bradley reported that recorders are operating at the head of all laterals.

Silva reported that all the checks on the Myrtle have recorders.

Welch reported that most deliveries and tailwater structures have recorders.

This week was the beginning of a continuous run of several weeks. As recorders become available and are installed, the program will be expanded to the Munyon and other laterals. Bert Clemmons, SCS, Phoenix, AZ, will be here Monday to review and discuss the program.

2. Tailwater Recovery. Wheeler reported that the tailwater reservoirs having smaller than 18" pipes will be replaced. In one case the grade will be changed on an existing 18" pipe. There are continuing problems on both the Benson and Smith systems, where grade boards are being pulled or outlets changed by the irrigators. Caps have been ordered for the pipe outlets. Welch is collecting water samples for both Benson and Smith.

The divisions will perform necessary maintenance on all the systems except the pumps, which will be maintained by the shops. The group discussed the District's furnishing engineering design for tailwater recovery systems. Twogood will prepare a memo to the General Manager recommending that the District provide free engineering for tailwater recovery systems.

3. CIMIS. The group was advised that the contract had been executed, the effective date being April 17. Also, that Steve Knell has been hired to manage this program and will report to work May 27. Welch will check with Seamstrom regarding charges for recorders recently purchased (prior to April 17), since recorders ordered between now and June 30 would not be received prior to that date.

4. Water Conservation Plan Update. It was decided to cut off records for this report on April 30, 1986. Wheeler reported that most of the data assigned to him had been assembled. Twogood requested that each member transmit the assigned data to him by memo.

Wheeler also submitted a "Current Status of Hydrilla/Grass Carp Research Report," prepared by Randy Stocker for possible inclusion in the update. The other members reported that they will attempt to meet the May 9th goal for submitting the assigned data.

IMPERIAL IRRIGATION DISTRICT

Water Conservation Task Group

Notice of Meeting

Friday, May 2, 1986
2:00 p.m.

Water Department Conference Room

A G E N D A

1. Lateral Fluctuation Study - Status/Discussion
2. Tailwater Recovery Program
3. CIMIS Grant - Status
4. Water Conservation Plan Update — see memo of 4/23
5. Other
   (a) DWR letter re: low interest loan Ag Drainage
   (b) W.C Budget - status
   (c) Morgan proposal / Board approval
   (d) DWR loan status
   (e) Parsons Hydraulic Model - discussion

DAT-5/1/86

cc: C. L. Shreves
J. R. Wilson
Task Group (D. A. Twogood, G. C. Wheeler, J. P. Silva, D. G. Welch, B. L. Bradley)

Salinity Update

Special Edition
February 1986

Colorado River Water Quality Office
Bureau of Reclamation
USDA Salinity Control Coordinating Committee
U.S. Department of Agriculture
Colorado River Basin Salinity Control Forum
in cooperation with
Bureau of Land Management
Geological Survey
Fish and Wildlife Service
Environmental Protection Agency

CONTROLLING SALINITY IN THE COLORADO RIVER BASIN

The beautiful, rugged Colorado River provides water for life to over 18 million people in parts of seven states and Mexico. The river, however, carries about 9 million tons of salt annually past Hoover Dam. This salt load causes millions of dollars in damages to agriculture and cities in the Lower Basin States. Management of the quality of water in the Colorado is being pursued jointly by state and Federal agencies to protect this tremendous water resource.

Cover Photo—Upstream view of Imperial Dam, desilting works, Imperial Oasis Camp, Senator Wash Dam and Reservoir, and the lower portion of Imperial Reservoir. Note that one of the desilting basins has been dried up for maintenance activity.

THE PROBLEM

The Colorado River Basin encompasses portions of seven states. The river flows over 1,400 miles from its headwaters in Colorado to its terminus in the Gulf of California in the Republic of Mexico. On its journey, it joins with tributaries from Wyoming, Utah, and New Mexico; flows through the Grand Canyon; and provides state boundaries for Nevada, Arizona, and California.

The river's water, now and in future years, has been fully allocated through a long history of appropriations and negotiations that include acts, compacts, decrees, and an international treaty, known collectively as "The Law of the River."

About half of the present salinity concentration in the Colorado River at Hoover Dam near Las Vegas, Nevada, is attributed to natural sources. The remaining half is man-induced as indicated in figure 1.

High salinity concentrations result from two general processes: salt loading and salt concentration. Salt loading increases the amount of salt added to a given amount of water, and salt concentration decreases the amount of dilution water available for a given amount of salt.

Specifically, salt loading in the Colorado River system results in the addition of mineral salts from natural and manmade sources. Salt concentration results in the rise in salinity through beneficial consumptive use of waters and

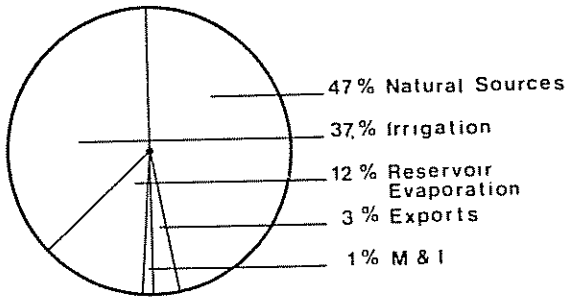

Figure 1. Salt loading sources.

associated streamflow depletions in the Basin that concentrate the salt burden into a lesser volume of water. Generally, the application of irrigation water results in increased salt loading because of salt leaching and the concentrating effects of consumptive use. The total salt concentration in the river fluctuates annually with the overall Basin water supply.

The Colorado River, at its headwaters in the mountains of north-central Colorado, has a salinity (dissolved minerals) concentration of only about 50 mg/L (milligrams per liter). The salinity concentrations progressively increase as the river flows downstream as a result of water diversion, evaporation from reservoirs, and salt contributions from a variety of sources. Recent record high flows have flushed and filled the major reservoirs, resulting in significantly lower salinity levels at Imperial Dam—from an annual average of 826 mg/L in 1982 to 608 mg/L (provisional) in 1985. Without control measures, however, the concentration is projected to increase, following the overall rising trend shown in figure 2, possibly reaching a level of 1005 mg/L* at Imperial Dam by about 2010.

* The current projection is from 1985 Evaluation of Salinity Control Programs in the Colorado River Basin.

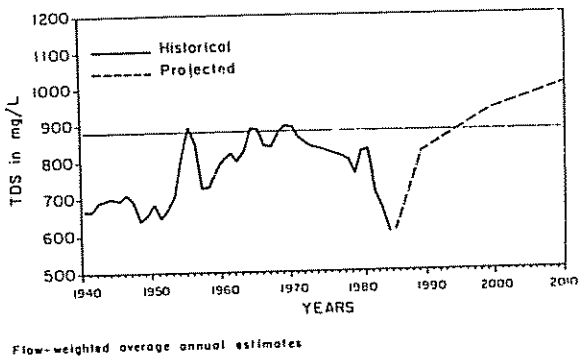

Figure 2. Historical and projected salinity concentrations at Imperial Dam.

IID-353 GCWheeler

IIDXC

IMPERIAL IRRIGATION DISTRICT
INTER-OFFICE MEMORANDUM

TO General Manager

COPIES TO Task Group w.o. attach.

DATE October 17, 1985

FROM Executive Officer

DEPARTMENT

AT El Centro

SUBJECT Portable Head Ditch Checks

The Water Conservation Task Group discussed the matter of portable checks as suggested by Don Cox, at the October 16, 1985 meeting. Copies of the meeting notes are attached.

Also attached is a copy of my memorandum to the Task Group on the subject, which has been expanded to include portable submerged weirs (to be tried in lieu of concrete).

We intend to move ahead with the five-lateral study, as time and manpower permit. This appears to be the program to try these alternative ideas since we will be concentrating our efforts there.

We will keep you advised on this matter.

D. A. TWOGOOD

Attachments

Imperial Irrigation District
Water Conservation Task Group

Notes on Meeting of October 16, 1985

Agenda attached.

1. Tailwater Recovery - Jesse Silva reported that the pump for Vessey will be installed this week.

Doug Welch indicated it would be three weeks before Vessey would be irrigating the north 160 acres in sugar beets. The system will be operable before that time.

On the Benson system, the pipeline will be completed this week. The pump is being fabricated.

It was the consensus of the Task Group that every effort will be made to complete the five tailwater recovery systems by mid-December. All five agreements have been executed.

2. Loan Application - Jesse Silva reported that he has his staff working on the elements for the application, namely, two reservoirs (Trifolium and Z), the concrete lining of the South Alamo, and the Lateral Interceptor System.

Most of the work has been done on the reservoirs. The South Alamo will have to start from scratch and the Lateral Interceptor is described in the Water Conservation Plan.

The goal is to have a draft application ready for review by the Task Group within three weeks.

3. Portable Checks - The suggestion that the District install some portable checks in farm head ditches to stabilize the back pressure on certain delivery gates, was made at the Water Conservation Advisory Board meeting last week. Welch and Silva pointed out that portable checks would be considered as part of the Lateral Fluctuation Study. This study is largely dependent on the availability of recorders, but is expected to get under way at the first of the year. Manpower limitations may also be a factor, but the installation of portable checks will have a priority within this program.

Regarding the Lateral Fluctuation Study, Silva reported that the USDA, Phoenix Laboratory, has employed a man for their portion of this cooperative study.

4. Other - Welch reported that the first shipment of electronic recorders is due Monday, October 21, 1985.

The first recorders will be installed for the Lateral Fluctuation and the Irrigation Scheduling programs. The group discussed the importance of keeping Water Control staff informed on the electronic recorder program, since the long-range goal should be to replace chart recorders with electronic recorders throughout the District. The group discussed briefly the manpower needs to

Imperial Irrigation District
Water Conservation Task Group

Notice of Meeting:

Wednesday, October 16, 1985 - 3:00 p.m.
Water Department Conference Room

A G E N D A

1. Tailwater Recovery Program - Status

2. Loan Application - Report by Silva

3. Portable checks for head ditches - discuss feasibility; consider trials

4. Other Programs

10/14/85-DAT

Copies to
C. L. Shreves
J. R. Wilson
Task Group (G. C. Wheeler, J. P. Silva, D. G. Welch, B. L. Bradley

G. C. Wheeler

October 14, 1985

Mr. Shreves:

Re: 1986 Water Conservation Budget and Staffing

I have not submitted a request for additional personnel in the Water Conservation Section pending action on the MOU.

Since money from MWD is obviously not forthcoming as expected, we recognize the need to hold down expenditures for water conservation, but at the same time, continue the most important data-collection efforts, namely:

USBR/IID East Highline Program
Five-Lateral Studies
Tailwater Recovery
Irrigation Scheduling

Furthermore, we need to continue the tailwater assessment and monitoring programs, including random installation of recorders on headgates and tailwater structures.

Doug Welch has only five people on his staff besides himself, to perform the required work. I agree with Doug that more people than this will be required.

Our Water Conservation Group will discuss this matter, especially the possibilities of using people from the Divisions, Water Control and Drainage for help in the field, mainly installing and moving recorders.

If our budget and staffing level will permit, I concur with Doug that an Agricultural Engineer would be a valuable addition to the water conservation staff.

D. A. TWOGOOD

Enclosures:

D. Welch Inter-Office Memorandum dated October 8, 1985, re: New Personnel.

Copy to Task Group 10/17/85

IIDWD-WC

Imperial Irrigation District
INTER-OFFICE MEMORANDUM

To: DIVISION SUPERINTENDENTS

Date: September 20, 1985

Copies to: D.G. Welch
S. Underwood
D.A. Twogood
J.R. Wilson

From: Water Conservation Specialist

Department: Water

Subject: Calling to report canals that are running.

The Water Conservation section is taking on a new task called the Five Lateral Study. We are going to be putting platforms on every single tailwater structure on five different laterals, along with trying to work on the other fields in our existing program. This means that we are going to try to cover more than 300 delivery and tailwater structures with 145 recorders. To do this we are going to need the help of all the Water Coordinators. They need to call us to let us know what is running <u>every single day</u> (including weekends!). By letting us know what is running on a weekend, on Monday morning we can move recorders off fields that have run to fields that will be starting. We do this almost every single day now. Please give the attached list of canal gates to your Water Coordinator for posting. Thank you for your cooperation.

Denise Studer

Denise Studer

attachments

IMPERIAL IRRIGATION DISTRICT
BRAWLEY DIVISION
CANALS RUNNING
9-20-85

Please inform Denise or Doug if any of the canal gate's below are running: You can call 339-9393 and leave a message if the recorder answers. Thanks.

MALVA 2 GATES 16, 16-A, 6-A, 6, & 14

MULBERRY 14

ANY GATES ON THE MUNYON CANAL

ANY GATES ON THE MULLEN CANAL

ANY GATES ON THE MYRTLE CANAL

ANY GATES ON THE MAPLE CANAL

ANY GATES ON THE MESQUITE CANAL

MAGNOLIA 12 & 13

OAK 22 & MOSS 13-A

MARIGOLD 7, 8, 9-A & 25

MAYFLOWER 8, 9, 10 & 25

ROCKWOOD 152 & 153

OLEANDER 22

STANDARD 7

MARIGOLD 13

CENTRAL MAIN 15 & 17 (IID PUMP-BACK SYSTEM)

IMPERIAL IRRIGATION DISTRICT
CALIPATRIA DIVISION
CANALS RUNNING
9-20-85

Please inform Denise or Doug if any of the canal gate's below are running: You can call 339-9393and leave a message if the recorder answers. Thanks.

VAIL GATES 609, 405, & 25

E-14 & E-15

O-14 & O-15

D-14 & D-15

NUTMEG 13, 16, 16-A,& 9, & 14

NECTARINE 6

Q-13 & Q-15 (IID PUMP-BACK SYSTEM)

IMPERIAL IRRIGATION DISTRICT
EL CENTRO DIVISION
CANALS RUNNING
9-20-85

Please inform Denise or Doug if any of the canal gate's below are running: You can call 339-9393 and leave a message if the recorder answers. Thanks.

Dogwood 91 & 71 & 62

Rose 25

Rose 37

Rubber 8

Rubber 8-A

Rubber 10-A

Rubber 11-A

Rubber 29

Rubber 22-A

Redwood 85

Redwood 58

Redwood 59 for Neal Jack

Redwood 83

Redwood 80

Redwood 54

Redwood 53

Acacia 55, 56, 55-A, 56-A, 57-A

Acacia 25

IMPERIAL IRRIGATION DISTRICT
HOLTVILLE DIVISION
CANALS RUNNING
9-20-85

Please inform Denise or Doug if any of the canal gate's below are running: You can call 339-9393 and leave a message if the recorder answers. Thanks.

PLUM GATES 31, 32, 33, & 34

PEAR GATES 73 ,44, 42, 43, & 13

EAST HIGHLINE LATERAL 6 GATES 175 & 176

SOUTH ALAMO GATES 51, 66, 84, & 93

ASH 55, 104-A, 106 & 156

MESA 3 GATE 41

HEMLOCK 65, 4, OR 5

OAT 4

TOWNSHIP 6

ASH 61-E & ASH 61-D (IID PUMP-BACK SYSTEM)

IMPERIAL IRRIGATION DISTRICT
IMPERIAL DIVISION
CANALS RUNNING
9-20-85

Please inform Denise or Doug if any of the canal gate's below are running: You can call 339-9393and leave a message if the recorder answers. Thanks.

NEWSIDE 30-A

NEWSIDE 37-A

NEWSIDE 32

NEWSIDE 38

NORTH DATE 79-A

DAHLIA 65, & 80

EUCALYPTUS 144 & 145

IMPERIAL IRRIGATION DISTRICT
WESTMORLAND DIVISION
CANALS RUNNING
6-10-85

Please inform Denise or Doug if any of the canal gate's below are running: You can call 339-9393and leave a message if the recorder answers. Thanks.

SPRUCE 4 GATES 78-A & 79-A

TRIFOLIUM 8 GATES 153(IID PUMP-BACK SYSTEM) 157, & 160

TRIFOLIUM 2 GATE 36

TRIFOLIUM 3 GATE 56

TRIFOLIUM 11 GATES 212, & 213

TRIFOLIUM 12 GATES 227, 227-A, & 228

THISTLE MAIN 17

Imperial Irrigation District
Water Conservation Task Group

Notice of Meeting

Friday, September ~~19~~ 20, 1985 - 3:00 p.m.

Water Department Conference Room

A G E N D A

1. Parsons' Draft Final Report - Summarize comments

2. 1986 Water Conservation Budget

3. Other

9/18/85-DAT

Copies to

C. L. Shreves
J. R. Wilson
Task Group (G. C. Wheeler, J. P. Silva, D. G. Welch, B. L. Bradley)

IID-353

IMPERIAL IRRIGATION DISTRICT
INTER-OFFICE MEMORANDUM

IIDXO

Twogood/gmd/352 7411

TO General Manager

COPIES TO K. Fontaine
J. R. Wilson
Task Group
S C Wheeler

DATE September 16, 1985

FROM DEPARTMENT Executive Officer

AT El Centro

SUBJECT 1986 Water Conservation Budget

The Water Conservation Task Group has developed a proposed water conservation budget (copy attached), for 1986, in the total amount of $9,028,000, based on the assumption that the District will receive a payment from MWD in the amount of $10 million per the draft Memorandum of Understanding.

Again, 1986 will be a year of study, with emphasis on collecting water flow data to determine seepage losses and other baseline data (water balance accounting) related to lateral flows and operational spills, as well as expanded data collection on-farm, especially tailwater. Developing data on pump-back tailwater systems is a high priority.

It is important to continue the irrigation scheduling and related on-farm programs to provide water users with information on water application and use. We also recommend that we continue the USBR/IID cooperative study.

If funds from MWD are not received during 1986, the program will have to be, and should be, cut back primarily to the data-collection programs, with the capital-intensive programs being deferred. However, the canal lining program should move ahead within limits of perhaps $1 million during January-March, 1986. Accordingly, we have prepared a proposed (very tentative) minimal budget (attached) in case no outside funding is forthcoming. The purpose is to identify programs which the Task Group feels are important to continue.

Additional equipment and personnel are being requested for the several data-collection programs. Furthermore, the current office facilities for Doug Welch and his team is insufficient to handle additional personnel (it is crowded now).

In summary, we request the following additions in equipment and personnel for the Water Conservation Section and programs:

215 Electronic recorders*
1 Personal computer/software*
1 Mobile office
1 Agricultural Engineer*
1 Clerical Technician*

*Allowance included in budget figures.

WATER CONSERVATION BUDGET
1986

PROGRAM	COST THOUSAND $
WATER BALANCE ACCOUNTING	
Tailwater Monitoring	50
Leaching Requirement	60
Structural Programs	
Canal Lining	4,000
Regulatory Reservoir	1,300
Remote Control Equipment	300
Lateral Interceptor System	450
OPERATIONAL PROGRAMS	
Remote Control Study	60
ADMINISTRATIVE Programs	
Tailwater Assessment	350
EDUCATIONAL PROGRAMS	
Pilot Tailwater Recovery Systems	60
Conservation Education	2.5
Field Irrigation Demonstration	2.5
Irrigation Training	10
CO-OPERATIVE PROGRAMS	
USBR Co-Operative Study	153
USDA Lateral Fluctuation	100
Irrigation Scheduling	300
SCS Water Conservation	40
RESEARCH PROGRAMS	
Mid Lateral Reservoir Study	50
CIMIS/Computerized Water Mgmt. Study	235
SUBTOTAL	7,523
OVERHEAD CHARGES @ 20%	1,505
Total	9,028

Water Conserv.
Task Group
9/11/85

IMPERIAL IRRIGATION DISTRICT

Proposed Minimal Water Conservation Budget for 1986
(No outside funding)

	(Thousand Dollars)
Canal Lining	$1,000
Tailwater Assessment	350
Tailwater Monitoring	50
Tailwater Recovery	60
USBR/IID East Highline Study	162
Lateral Fluctuation Study	100
Irrigation Scheduling	300
Remote Control Study	75
Miscellaneous Small Programs	50
Parsons' Studies	2,000
Total	$4,147

9/13/85-WCTG

IMPERIAL IRRIGATION DISTRICT
Water Conservation Task Group

Notice of Meeting

Wednesday, August 28, 1985

3:00 p.m.

Water Department Conference Room

A G E N D A

1. Water Conservation Plan

   a) Status
   b) Distribution List
   c) Responsibility for Distribution

2. Tailwater Recovery Systems - Status

3. USBR/IID Studies

4. Five-Lateral Studies

5. 1985 Budget for Water Conservation

6. Other

cc: C. L. Shreves
J. R. Wilson
Task Group (G. C. Wheeler, J. P. Silva, D. G. Welch, B. L. Bradley)

DAT

SECRETARY'S MINUTES
WATER CONSERVATION ADVISORY BOARD
MARCH 6, 1986

The Water Conservation Advisory Board convened in a regular session at 1:30 P.M., Thursday, March 6, 1986.

The roll was called and the minutes were approved as read.

Mr. Dick Palmer of the Parsons Corporation gave a presentation on an incentive program for water conservation. He suggested:

The WCAB should appoint a comittee to develop a workable incentive program that farmers will use to conserve water;

Identify all incentive alternatives;

Develope evaluation criteria;

Evaluate all approaches;

Select and recommend to the WCAB viable incentives;

WCAB recommend implementation to District Board;

Implement program;

Evaluate results.

The chairman appointed six people to a committee for ideas only, they are: Dick Lyerly, Mark Osterkamp, Bob Richter, Brad Lucky, Larry Gilbert, and Tom Heffernan.

The meeting was adjourned. The next meeting will be held THURSDAY, May 15,1986 at 1:30 P.M., in the Board of Directors Room.

SECRETARY'S MINUTES
WATER CONSERVATION ADVISORY BOARD
February 13, 1986

The Water Conservation Advisory Board convened in a regular session at 1:30 P.M., Thursday, Febuary 13, 1986.

The roll was called and the minutes were approved as read.

Doug Welch reported, that at the District's request, Dick Palmer of the Parsons Corporation had put together a program for developing an "Incentive Program for Water Conservation." Mr. Welch then briefly described the proposed program which included;

The WCAB should appoint a comittee to develop a workable incentive program that farmers will use to conserve water;

Identify all incentive alternatives;

Develope evaluation criteria;

Evaluate all approaches;

Select and recommend to the WCAB viable incentives;

WCAB recommend implementation to District Board;

Implement program;

Evaluate results.

The chairman asked for comments on the proposed program. The majority of the members present did not feel that they wanted to pursue such a program at this time. The chairman said that since there were only seven members present he was going to contact the other members of the committee to discuss the program with them and that the program would be reviewed again at the next meeting.

The meeting was adjourned. The next meeting will be held THURSDAY, March 6, 1986 at 1:30 P.M., in the Board of Directors Room.

SECRETARY'S MINUTES
WATER CONSERVATION ADVISORY BOARD
September 12, 1985

The Water Conservation Advisory Board convened in a regular session at 1:30 P.M., Thursday, September 12, 1985.

The roll was called and the secretary reported that a quorum was present. The minutes were approved as read.

Doug Welch introduced Dick Lyerly who has been appointed to serve on the WCAB by Lloyd Allen.

Melvyn Brown, of Parsons Water Resources, Inc., gave a brief report on the progress of the studies that Parsons is completing for the District. The Water Requirements and Availability Study will be completed and presented to the District Board on October 18, 1985.

Charles Shreves briefly explained the Draft Memorandum of Understanding between the Imperial Irrigation District and the Metropolitian Water District of Southern California.

The WCAB reviewed each item in the Memorandum Of Understanding.

M/S (Reeves-Cox) and carried unanimously, that the following Resolution No.85-2 be adopted.

RE: The WCAB supports the concept of transfering water to the Metropolitian Water District in return for financial and other considerations. It is recommended however, that such an agreement include protection against inflation-caused devaluation of the payments Imperial Irrigation District is to receive; and protection against claims arising from lowering the level of the Salton Sea. It is further recommended that any improvements or measures which conserve water be fully fundable from Water Conservation Fund monies.

The Chairman opened the meeting to nominations for the office of chairman.

J.C. Reeves nominated Brad Luckey for the office of Chairman.

M/S (Cox-Reeves) and carried, that nominations for Chairman be closed and Brad Luckey be elected.

Brad Luckey nominated John Veysey for the office of Vice-Chairman.

M/S (Reeves-Luckey) and carried, that nominations for Vice-Chairman be closed and a unanimous ballot be cast for John Veysey.

The meeting was adjouned. The next meeting will be held October 10, 1985 at 1:30 p.m..

BOARD

OOM

ER CONSERVATION ADVISORY BOARD
Resolution No. 85-2

of Directors of Imperial Irrigation District has
vation Advisory Board to assist the District in
ting to water problems; and
Conservation Advisory Board has adopted Bylaws
Imperial Irrigation District; and

WHEREAS, said Bylaws state in Section 1.01 therein:
"The purpose for which this board is organized is to recommend to the Board of Directors of the Imperial Irrigation District and the Imperial Valley farming community an expanded program of irrigation efficiency in system operation and farming practices."

The Water Conservation Advisory Board has met from time to time in keeping with said Bylaws.

The Advisory Board met in regular session and reviewed the Draft Memorandum of Understanding between the Imperial Irrigation District and the Metropolitian Water District of Southern California, and is making the following recommendation to the District Board of Directors for their consideration:

> The Water Conservation Advisory Board supports the concept of transfering water to the Metropolitian Water District in return for financial and other considerations. It is recommended however, that such an agreement include protection against inflation-caused devaluation of the payments Imperial Irrigation District is to receive; and protection against claims arising from lowering the level of the Salton Sea. It is further recommended that any improvements or measures which conserve water be fully fundable from Water Conservation Fund monies.

The foregoing recommendation was duly discussed by the Water Conservation Advisory Board, determined to be reasonable and necessary, and passed by them by an unanimous vote, with the understanding that the

IID-353

IMPERIAL IRRIGATION DISTRICT
INTER-OFFICE MEMORANDUM

IIDXO

TO	Memorandum to Files	DATE	September 25, 1985
COPIES TO	C. L. Shreves J. R. Wilson Task Group (G.C. Wheeler, J.P. Silva, D.G..Welch B.L. Bradley)	FROM DEPARTMENT AT	Executive Officer El Centro
		SUBJECT	USBR/IID Studies

Mike Stuver called this date to suggest a meeting with District staff to discuss the joint USBR/IID East Highline Project, as well as the All-American Canal studies. We set a tentative date of Thursday, October 24, 1985, at 9:00 a.m., in the Water Department Conference Room.

Mike will confirm in writing and will prepare an agenda, which will include:

1. Status of USBR work to date; and

2. Measurements and information being compiled by the District.

Mike also wants to discuss the status of the All-American Canal Lining Project, which has now been assigned to him.

D. A. TWOGOOD

United States Department of the Interior

BUREAU OF RECLAMATION
LOWER COLORADO REGIONAL OFFICE
P.O. BOX 427
BOULDER CITY, NEVADA 89005

IN REPLY
REFER TO: LC-158A
770.

AUG 30 1985

Mr. Charles Shreves
General Manager
Imperial Irrigation District
P.O. Box 937
Imperial, California 92251

Dear Mr. Shreves:

As you undoubtedly are aware, the Bureau of Reclamation (Reclamation) is cooperating with the Imperial Irrigation District (District) in the planning of the relocation and automation of the East Highline Canal. Reclamation, as a Federal agency, has certain responsibilities toward cultural resources as mandated by such legislation as Executive Order 11513 and 36 CFR 800.

Part of the process of compliance with that legislation will involve an on-the-ground survey of the proposed alinement by archaeologists. A portion of the proposed alinement and affected areas is located on District land. Reclamation would like to request permission for our archaeologist or contract archaeologists to enter District land for the purpose of conducting those activities necessary for compliance.

Reclamation will coordinate with your office in regard to the accomplishment of the archaeological survey.

Sincerely yours,

Edward M. Hallenbeck
Acting Regional Director

9/4/85 (gar)
Info copy to Mr. Wilson
Mr. Twogood
Mr. Roussel

IID-353

IMPERIAL IRRIGATION DISTRICT

IIDXO

INTER-OFFICE MEMORANDUM

TO Director Allen

DATE November 13, 1985

COPIES TO W. R. Condit
C. L. Shreves
J. P. Carter
J. R. Wilson
G. C. Wheeler
J. P. Silva
C. Z. Villalon

FROM DEPARTMENT AT Executive Officer
El Centro

SUBJECT Joint District/County Meeting on Flooding Proble

Please be reminded that the meeting previously announced for a joint meeting between the District and County representatives to discuss flooding problems in Imperial Valley, will be held in the Chief Administrative Office in the County Services Building, at 9:30 a.m., on Wednesday, November 20, 1985.

D. A. TWOGOOD

11/19 Cancelled per Twogood

IID/Imperial County Joint Meeting (staff)
October 10, 1985

A G E N D A

1. Review Notes from September 12, 1985 Meeting

2. Input from G. C. Wheeler and J. P. Silva - Supplement Problem Areas

3. Previous Studies/Reports (County)

4. Status of Repairs or Physical Changes Since Floods of 1976; 1977, etc.

5. Identify Possible Early Solutions

6. Identify Major Problems for USCE Involvement

7. Discuss Procedure for Joint IID/County Efforts

10/10/85-DAT

IID-353

IMPERIAL IRRIGATION DISTRICT
INTER-OFFICE MEMORANDUM

TO Memorandum to Files

DATE September 12, 1985

COPIES TO

FROM DEPARTMENT Executive Officer

AT El Centro

SUBJECT Flood Control Meeting

I met this date as scheduled with Harry Orfanos, Imperial County Director of Public Works, and George Lai. George Wheeler was unable to attend because of personal problems and Jesse Silva had a prior commitment.

We first discussed the possible organizations which might be responsible for flood control, namely: Imperial County, Imperial Irrigation District, or a new Flood Control District. My reason for excluding the District from consideration is that the source of the flooding in most cases is outside of the District boundaries, mainly on the East and West Mesas; furthermore, I suggested that the County would be the proper organization between the two since there are flood problems in Ocotillo, as well as areas around the Salton Sea, outside the District's boundary.

It would appear that a new and separate flood control district would be the best vehicle responsible for flood control in Imperial County. We then listed, not necessarily in order, the main areas which have experienced flood problems in the last several years. These are listed below:

Pinto
~~Cuyler~~

Ocotillo;
Yuha;
Salton City/Desert Shores/Bombay Beach;
Thistle Canal, near Imler Road;
San Felipe;
Mouth of New and Alamo Rivers;
Mammouth Wash/Calipatria/Niland;
El Centro/Imperial/Barbara Worth/KOA.

Harry Orfanos felt that the County's primary concerns for prompt solution are: (1) KOA; and (2) other southeast El Centro areas contributing to the Central Drain system.

It was decided to have one more staff level meeting in three or four weeks. A date will be set in the near future.

D. A. TWOGOOD

Nov. 1, 1985 meeting

ALL-AMERICAN CANAL DROWNINGS

Since 1954, Reclamation has maintained a ledger of fatalities in the All-American Canal. The ledger records the date of death, name of the individual, age, sex, nationality, location, and description of the incident. In many cases, the name, age, and nationality of the deceased is designated as "unknown." Table 1 summarizes the frequency of deaths by year.

Table 1
Fatalities by Year in the All-American Canal

1954	7	1965	0	1975	6
1955	2	1966	2	1976	6
1956	1	1967	0	1977	13
1957	0	1968	0	1978	17
1958	8	1969	12	1979	15
1959	2	1970	11	1980	12
1960	3	1971	7	1981	1
1961	2	1972	9	1982	2
1962	1	1973	16	1983	1
1963	1	1974	11	1984	15
1964	1				

Table __ indicates that 184 people have died in the All-American Canal during the last 31 years. The Table further indicates the frequency of deaths has been increasing in the All-American Canal in recent years. During the first 10 years of the ledger, there were an average of 2.7 deaths per year; during the last ten years, there were an average of 8.8 deaths per year. Approximately 90 percent of the deaths were middle-aged males of Mexican nationality. Although the ledger attributes several of the deaths to swimming, fishing, or auto accidents, approximately 80 percent of the deaths were described as "body found in canal" or "unknown."

It can be inferred from the above that the majority of the deaths were the consequence of illegal immigration to the United States.

The accuracy of the data in Table is presumed to be high since detailed records were maintained by Reclamation's Safety Office. Furthermore, the U.S. Border Patrol Office in Yuma confirmed that there are approximately nine drownings per year in the canal.

In discussions with safety engineers in both the Boulder City and Sacramento Regional offices, it was learned that drownings are much more likely in lined canals than unlined canals. Drownings are more likely in lined canals because of higher water velocity, the slope of the embankment, and difficulty in climbing to safety. Attempts to quantify the degree to which drownings in a lined All-American Canal might increase were unfruitful.

Table ___ is a comparison of several mitigation techniques under consideration to reduce potential additional drownings in the canal. The partial fencing approach would focus on those portions of the canal where very high incidences of drownings have previously occurred. Complete fencing might be accomplished along the south side of the canal where 80 to 90 percent of the drownings originate. Additional drownings might be avoided by fencing both sides of the canal. Similarly, ladders could be placed on one or both sides of the canal. Bilingual warning signs could be placed at frequent intervals along the south side of the canal. An educational program in conjunction with the nearby Mexican consulate office

could be conducted to alert potential illegal immigrants to the increased dangers of a lined canal.

Table ___
Canal Drowning Mitigation Techniques

Technique	Approximate Cost	Drowning Reduction Probability
Partial Fencing South Side	$ 369,600	Very Low
Complete Fencing South Side	1,478,400	Low
Complete Fencing Both Sides	2,956,800	Low
Ladders South Side	16,800	Moderate
Ladders Both Sides	33,600	Moderate
Warning Signs	22,400	Low
Float Booms	11,200	Moderate
Educational Program	25,000	Very Low

The cost figures in Table were derived by the following formula. At $10 per foot, climb resistant fencing is estimated to cost $52,800 per mile. Ladders are estimated to cost $150 per unit. Warning signs are estimated to cost $200 per unit. Float booms are estimated to cost $100 per unit. Writing, coordinating, and implementing an educational program is estimated to cost approximately $25,000. Ladders, warning signs, and float booms were assumed to be located at quarter mile intervals for the 28-mile canal lining operation.

Other methods that were considered to reduce potential drownings were a covered canal and an underground pipeline. Although these methods would be effective drowning reduction techniques, they also would be excessively costly and an encouragement to illegal immigration.

The technique or combination of techniques that would offer the greatest chance to reduce potential drownings at the least cost has not been determined. The motivational forces behind illegal immigration and the relative non-success of current techniques along the American-Mexican border suggest that none of the identified techniques would singly offer a high probability for significant drowning reductions. In particular, fencing is viewed as a technique of low deterrent value. The relatively inexpensive float booms would encourage illegal immigration. On a preliminary basis, ladders on both sides, in conjunction with warning signs, and/or an educational program, appear to offer the best prospect for reduced drownings.

These techniques, and possibly others, will be further discussed and refined with applicable Reclamation and non-Reclamation entities. The draft EIS will identify a recommended plan for drowning mitigation.

MBird: 742/AAC3

IID-353

IMPERIAL IRRIGATION DISTRICT
INTER-OFFICE MEMORANDUM

TO Manager, Water Department

DATE March 5, 1986

COPIES TO

FROM DEPARTMENT Executive Officer

AT El Centro

SUBJECT Job Description
Water Conservation
Supervisor

Attached is the job description for Supervisor, Water Conservation revised February 1986.

I took some of the recommendations, given in the 2/1/86 job description transmitted by your memorandum of 1/31/86. The major responsibility still is on-farm but the description also specifies "...working with other District personnel in seeking methods to improve the accuracy of (both) ordering and measuring water...."

This is most important, in my opinion.

D. A. TWOGOOD

Attachment

Imperial Irrigation District
Class Code: 231

Revised February 1986

SUPERVISOR, WATER CONSERVATION

PRIMARY FUNCTION

Under general direction, plans and coordinates various District Water Conservation Programs which relate to delivery of water to agricultural users. Responsible for recommending practical and effective irrigation procedures to water users. Includes developing methods to improve irrigation application efficiency, working with other District personnel in seeking methods to improve the accuracy of ordering and measuring water, and providing assistance to water users in recycling of agricultural drainage water for irrigation purposes. Advises and solicits cooperation of water users in water conservation practices beneficial to both users and the District.

TYPICAL DUTIES

(1) Confers with water users on water conservation practices and purposes; (2) proposes and conducts investigative studies on various phases of water ordering and management on irrigated areas, and informs water users of the results; (3) collects data on field run-off and irrigation efficiency to determine the most efficient irrigation methods and practices; (4) coordinates activities with state and federal agriculture and research agencies and associations to assist water users in applying efficient irrigation methods to reduce and control the amount of surface run-off; (5) coordinates the dissemination of information on efficient water conservation practices and methods with the District's public information office; (6) in cooperation with other District staff, evaluates current water distribution practices and works to develop and implement more efficient methods; (7) applies computer technology to collection and analysis of water flow data; (8) researches and develops resources to finance conservation programs including governmental grant-in-aid and foundation programs; (9) coordinates activities with and assists the Water Conservation Advisory Board; (10) works in conjunction with water department operations, and confers with District management as required; (11) supervises or assists in the compilation and preparation of various reports and records, maintains current files, and reviews other related data for correctness; (12) participates in the selection of employees in conformance with District policy and procedure; (13) evaluates employee job performance and recommends personnel actions such as promotions, merit increases, and disciplinary actions; (14) supervises and directs the training of personnel in safe work practices and performance of assigned duties; (15) reviews and assures unit operating costs are within the budget; (16) supervises and assists in preparing unit operating budget; (17) supervises and assists in investigating unit accidents and makes recommendations to superiors; and (19) performs other duties as assigned.

EMPLOYMENT STANDARDS

Education and Experience: Any combination equivalent to graduation from college with a B.S. degree in agricultural engineering or science including studies in water management or eight years of increasingly responsible professional water management experience primarily in an agricultural environment.

IID-353

IMPERIAL IRRIGATION DISTRICT

IIDWD INTER-OFFICE MEMORANDUM Wilson/clc/339-9263

TO General Manager

DATE January 28, 1986

COPIES TO Mr. Wheeler
Mr. Sheldon
Mr. Luker

FROM Manager
DEPARTMENT Water
AT Imperial

SUBJECT Biannual Inspection - AAC by USBR

The biannual inspection of the All-American Canal by USBR is scheduled for February 18-19, 1986.

This inspection will be for the canal and structures from Station 60 to Westside Main Canal.

Messrs. Bob Wilson, George Wheeler, Harold Sheldon and Jim Luker will be involved in this inspection as IID representatives.

J.R. WILSON

INSPECTION

United States Department of the Interior

BUREAU OF RECLAMATION
YUMA PROJECTS OFFICE
BIN 12487
YUMA, ARIZONA 85365

IN REPLY
REFER TO: 303-430
506.

FEB 3 1986

Mr. Charles L. Shreves, Manager
Imperial Irrigation District
P.O. Box 937
Imperial, California 92251

Dear Mr. Shreves:

This letter is to confirm the date for the review of maintenance inspection of the All-American Canal System.

As discussed with Messrs. Bob Wilson and Harold Sheldon, our review team is planning to meet members of your staff about 8:30 a.m. at Imperial Dam on February 18, 1986, to begin inspection.

Your cooperation is appreciated.

Sincerely yours,

For K. M. Trompeter
Project Manager

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6 meals + T.P

United States Department of the Interior

BUREAU OF RECLAMATION
YUMA PROJECTS OFFICE
BIN 12487
YUMA, ARIZONA 85364

IN REPLY
REFER TO: 303-430
506.

NOV 12 1985

Mr. Charles L. Shreves, Manager
Imperial Irrigation District
P.O. Box 937
Imperial, California 92251

Dear Mr. Shreves:

We have scheduled a Safety Evaluation of Existing Dams inspection in conjunction with a Review of Operation and Maintenance inspection for Imperial and Laguna Dams on November ~~25~~ and ~~26,~~ 1985.

Our inspection team will include representatives of the Yuma Projects Office, Lower Colorado Regional Office, and Engineering and Research Center.

We plan to arrive at Imperial Dam about 9:30 a.m. on November ~~25~~ to meet with your representatives and inspect the facilities.

Your cooperation in this effort is appreciated.

Sincerely yours,

For K. M. Trompeter
Project Manager

cc: Regional Director, Boulder City, Nevada, Attn: LC-430

Geo
We plan to go on the inspection. I'll be out of town on 25 and tied up on 24. Ron

Copy Shilden 11-14-85 Copy: Welson 11-14-85/pc
Chas F Dumphrey 11-14-85/pg

IMPERIAL IRRIGATION DISTRICT

Water Conservation Task Group

Notes on meeting of September 6, 1985

Agenda attached.

1. Water Conservation Plan. The Plan will be completed today with 10 copies being assembled for final review by the Task Group. The goal is to mail about 50 copies on or before September 12, 1985.

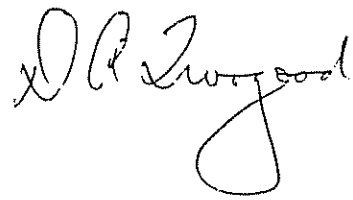
2. Tailwater Recovery. George Wheeler reported that the sign has been installed for the Veysey pumpback system, the reservoir is one-half completed and pipe will be installed next week. Four additional systems will be installed in the following order during the next two to three weeks: Benson, Smith, Mallory and Nilson. All agreements have been signed and are on the Board agenda for next Tuesday. Mr. Benson has requested underground electric service to his pump; we will comply. Mr. Heffernan has withdrawn, next in order in El Centro Division would be Scaroni. No action to be taken until Heffernan withdrawal received in writing.

3. 1986 Budget. The Task Group discussed all of the items to be recommended for inclusion in the 1986 budget. Jesse Silva was instructed to prepare a draft budget based on the figures developed during the work session. The Task Group will meet again next week to finalize our recommendations.

The group discussed the status of this year's projects, including anticipated work to be done. A brief report on this is being prepared for submission to Mr. Shreves next week.

4. Other. Members of the Task Group should continue reviewing the Parsons' Draft Final Report and prepare comments thereon for submission through Mr. Twogood to Mr. Shreves. This should be accomplished on or before September 18, 1985.

Tentative date for next meeting is September 11, 1985.



IMPERIAL IRRIGATION DISTRICT
Water Conservation Task Group

Notice of Meeting

There will be a meeting of the Task Group at 3:00 p.m. Tuesday, October 8, 1985 in the Water Department Conference Room.

AGENDA

1. Tailwater Recovery - Status Report

2. Low Interest Loan Application/DWR*

*Letter and application forms attached.

cc: C. L. Shreves
J. R. Wilson
Task Group members (G. C. Wheeler, J. P. Silva, D. G. Welch, B. L. Bradley)

IIDWD-WC

Imperial Irrigation District
INTER-OFFICE MEMORANDUM

To: D.A. Twogood

Date: Oct. 8, 1985

From: Supervisor,
Water Conservation

C.C. Shreves ✓

Department: Water

Subject: New Personnel

While reviewing the 1986 budget it has occured to me that it would be in the Water Conservation section's best interest to hire an Agricultural Engineer and Clerical Technician prior to hiring the two additional Water Conservation Technicians provided for in the 1985 budget.

The Agricultural Engineer is needed at this time to assist me in the early stages of organizing the Demonstration Tailwater Recycling, Computerized System Scheduling and Lateral Fluctuation, Studies. The Clerical Technician is needed at this time to assume the task of entering all the records which we have gathered in the past few years into the computer. Presently data is being entered into the computer as time permits by various personnel in my office.

Attached are proposed job descriptions for the two positions.

Attachments

Douglas G. Welch Jr.

CLERICAL TECHNICIAN

PRIMARY FUNCTION **********

DISTINGUISHING CHARACTERISTICTS **********

TYPICAL DUTIES

Water Conservation - (1) Receives assignments and organizes work schedule; (2) observes and collects field irrigation information and updates irrigation occurances on graphs; (3) collects and analyzes soil and water samples; (4) compiles, examines, evaluates and prepares data gathered in the Water Conservation Section; (5) enters data into the computer; (6) usees complicated computer programs to prepare various reports and graphs; (7) operates and may maintain assigned vehicle; and (8) performs other duties as assigned.

EMPLOYMENT STANDARD

Education and Experience: **********

Knowledge of: **********

Ability to: **********

Licensing - **********

******** Insert text from present job description for Clerical Technician.

with other public agencies and private companies; (11) responds to inquiries from the public; (12) prepares detailed engineering drawings; (13) remains current on latest developments in civil engineering; (14) prepares specifications; (15) maintains records and prepares reports; (16) may supervise the work of others on a project basis; and (17) performs other duties as assigned.

EMPLOYMENT STANDARDS

Education and Experience: Requires graduation from a four year college with a B.S. degree in civil or electrical engineering and:

Engineer - Registration with the State of California as a professional civil or electrical engineer.

Engineer, Assistant - Engineer-in-training certificate is required.

Knowledge of: Engineering principles and practices; and principles of supervision.

Ability to: Conceptualize engineering problems and design effective solutions; maintain effective relations with other District staff, as well as a variety of public and private agencies; write clear, concise reports; set priorities; assume responsibility for engineering projects; supervise the work of others; and work harmoniously with fellow employees.

Licensing: An appropriate driver's license issued by the California Department of Motor Vehicles is required.

Power Construction and Maintenance - (1) Prepares requisitions for materials and equipment required on construction jobs and lays out materials for crew; (2) lays out, assigns and coordinates work of materials and salvage personnel; (3) processes returned surplus materials, disposes of scraps and reconditions salvage as required; (4) reviews and verifies all personnel time and mileage reports and work order charges, and posts accordingly; (5) answers telephone and mobile phone calls, including trouble calls, and directs calls or takes messages; (6) maintains a running total on payroll budget and overtime hours used; (7) keeps track of equipment in the repair shop and coordinates return of equipment to field operations; (8) types information concerning dispersal of section personnel and disseminates information as required; (9) assists District personnel and the public with information; (10) types work sheets, forms, memos, vouchers, reports, etc.; and (11) performs other duties as assigned.

System Control - (1) Conforms job layouts and posting of job information to power pole and transformer cards; (2) accumulates data on power generation and transmission for periodic reports; (3) reconciles job costs; (4) reads and records maps and job layouts; (5) prepares descriptions for pole location and posts all material apparatus cards; (6) files and conforms records by special coding; (7) reviews joint pole authorizations for irregularities, posts data for billing purposes and routes authorizations for proper signatures; (8) answers telephone, directs calls or takes messages; (9) compiles reports on all power outages; (10) makes mathematical computations; and (11) performs other duties as assigned.

Water Engineering - (1) Indexes, records, maintains, and files maps, field books, photographs and drawings; (2) supplies information on property corner ties and surveys on property to authorized District personnel and private parties; (3) prepares corner tie cards from field books; (4) issues field books as required by survey crews, drafting, and other authorized personnel; (5) checks bench mark locations on new jobs to verify those previously recorded in field books by survey crews; (6) retrieves drawings and other materials loaned to other offices; (7) inventories office supplies and orders replacements; (8) performs blueprinting and duplicating duties when required; (9) completes forms for materials sold to private individuals; (10) performs various tasks such as coloring and splicing maps, drawing tile drainage maps, mounting photographs, numbering field books, burning identification numbers on field and index books; and (11) performs other duties as assigned.

EMPLOYMENT STANDARD

Education and Experience: Any combination equivalent to graduation from high school and three years of increasingly responsible and complex clerical experience.

Knowledge of: District regulations and policies; functions, terminology, and procedures of a particular section or department; modern office or accounting methods, procedures and equipment; safe work practices; basic supervision; and math computation methods.

Imperial Irrigation District
Water Conservation Task Group

Notice of Meeting:

Wednesday, October 16, 1985 - 3:00 p.m.
Water Department Conference Room

A G E N D A

1. Tailwater Recovery Program - Status

2. Loan Application - Report by Silva

3. Portable checks for head ditches - discuss feasibility; consider trials

4. Other Programs

DAT

10/14/85-DAT

Copies to
C. L. Shreves
J. R. Wilson
Task Group (G. C. Wheeler, J. P. Silva, D. G. Welch, B. L. Bradley

Imperial Irrigation District
Notes on Meeting of October 8, 1985

Agenda Attached.

1. Tailwater Recovery:

   Veysey - all pipe in place
   - pump assembly being completed
   - power to be installed this, or next week

   Benson - pond completed
   - pipe to be laid this week
   - pump being assembled

   J. R. Smith - design complete

   Mallory - design in progress, location revisions

   Others pending

Some discussion about recordkeeping, regarding source and disposal of water

2. Loan Application

   Several alternatives were discussed regarding application for low-cost (5%) loan from DWR for Water Conservation projects.

   It was decided to prepare, for further review, a three-element application:

   (1) Concrete Lining - one project. The South Alamo Canal was selected ($2\frac{1}{2}$ miles long)

   (2) Regulating Reservoir - Trifolium

   (3) Lateral Interceptor System

   The three identified programs could add up to about five million dollars, the maximum loan to any entity.

   Twogood referred to USBR "Oportunity" Study analyses on Spill Interception (pages 70-75).

   Silva to begin preparation of application.

3. In other business, Wheeler reported that Divisions are using revised water order form for reporting water ordered, delivered, and charged. Also, the new pink slips are being used.

10/14/85-DAT

Copies to
C. L. Shreves
J. R. Wilson
Task Group (G. C. Wheeler, J. P. Silva, D. G. Welch, B. L. Bradley)

IMPERIAL IRRIGATION DISTRICT
Water Conservation Task Group

Notice of Meeting

There will be a meeting of the Task Group at 3:00 p.m. Tuesday, October 8, 1985 in the Water Department Conference Room.

A G E N D A

1. Tailwater Recovery - Status Report

2. Low Interest Loan Application/DWR*

*Letter and application forms attached.

cc: C. L. Shreves
J. R. Wilson
Task Group members (G. C. Wheeler, J. P. Silva, D. G. Welch, B. L. Bradley)

STATE OF CALIFORNIA—THE RESOURCES AGENCY

GEORGE DEUKMEJIAN, *Governor*

DEPARTMENT OF WATER RESOURCES
P.O. BOX 388
SACRAMENTO, CA 95802

SEP 18 1985

To: Irrigation Districts, Water Districts, and other Public Agencies

I am pleased to invite you to apply for a low-interest loan of up to $5,000,000 for capital outlay water conservation projects such as the lining of canals and replacement of mains. These loans are made available under the Clean Water Bond Law of 1984. The interest rate for the loans will be about five percent. The loan repayment period is 25 years.

We have made the attached preliminary loan application as easy to complete as possible. Successful applicants will be selected on the basis of the cost effectiveness of their programs. Applications should be completed by the end of December. Full details are included in the attached package.

If you have any questions on the project, please contact Don Heath of the Department of Water Resources' Office of Water Conservation. His phone number is (916) 324-1097.

Sincerely,

David N. Kennedy
Director

Attachments

INSTRUCTIONS FOR SUBMITTAL

Each application must contain the following:

Preliminary Application Form
Attachment A - Description of Water Conservation Project
Attachment B - Benefits of Water Conservation Project
Attachment C - Costs of Water Conservation Project

Applications must be submitted in a sealed envelope clearly marked:

LOW INTEREST LOAN APPLICATION
Department of Water Resources
Office of Water Conservation
P. O. Box 388
Sacramento, CA 95802

It is anticipated that the Department will make its initial selection of programs to be funded during February of 1986. It is possible that all funds may be committed as a result of this selection process. Therefore, applicants are encouraged to apply as early as possible and certainly by December 31, 1985 in order to ensure consideration of their applications.

ADDITIONAL INFORMATION

For additional information write the Department of Water Resources at the address below:

Department of Water Resources
Office of Water Conservation
Low-Interest Loan Program
P. O. Box 388
Sacramento, CA 95802

or phone:

Donald C. Heath
Program Manager
Low-Interest Loan Program
(916) 324-1097 or toll-free (800) 952-5530

We certify that the information contained in this application and its attachments is accurate and complete to the best of our knowledge.

By: _____
(Signature of Authorized Representative)

_____
(Type or Print Name of Authorized Representative)

_____
(Title of Authorized Representative)

Telephone Number: (____)_____

_____
(Alternate Contact Person)

Telephone Number: (____)_____

State Senator:_____ Dist. No. _____

State Assembly Representative:_____

District No. _____

Attachment B

Benefits of Water Conservation Project

The benefits of the project include the value of the water conserved plus any additional benefits.

Value of Water Conserved

The value of the water conserved is determined by multiplying the number of acre-feet of water conserved during each year by the value of the water per acre-foot. The annual savings are then discounted to present value and then added together.

Quantity of Water Conserved. Each applicant estimates the annual quantity of water which will be conserved by the proposed project. If the annual water savings will remain constant from year to year, you need only compute the quantity of water to be saved during one year. If that quantity of water is not expected to be constant from year to year, you should estimate it for each year that the benefit will last, up to 50 years.

Following is the method used to determine the quantity of water conserved:

Value per Acre-Foot of Water Conserved. The value of water conserved will be computed one of two ways.

1. Avoided Costs and Water Sale Income. For agencies which have already developed supplies adequate to serve their needs through to the end of the loan repayment period, the value of the water conserved equals operations and maintenance costs avoided, e.g. avoided water purchases, pumping, water treatment, disposal, etc., and the net amount for which conserved water could be sold.

2. Marginal Costs. For agencies that will need to expand their water supplies to meet increasing demands during the loan repayment period, the benefits equal the marginal costs to develop new supplies plus avoided operations and maintenance costs. Debt service costs should not be included.

Year	Benefits in 1985 Dollars		Discount Factor		Discounted Benefits
1986	$ _____	x	1.000	=	$ _____
1987	_____	x	0.943	=	_____
1988	_____	x	0.890	=	_____
1989	_____	x	0.840	=	_____
1990	_____	x	0.792	=	_____
1991	_____	x	0.747	=	_____
1992	_____	x	0.705	=	_____
1993	_____	x	0.665	=	_____
1994	_____	x	0.627	=	_____
1995	_____	x	0.592	=	_____
1996	_____	x	0.558	=	_____
1997	_____	x	0.527	=	_____
1998	_____	x	0.497	=	_____
1999	_____	x	0.469	=	_____
2000	_____	x	0.442	=	_____
2001	_____	x	0.417	=	_____
2002	_____	x	0.394	=	_____
2003	_____	x	0.371	=	_____
2004	_____	x	0.350	=	_____
2005	_____	x	0.331	=	_____
2006	_____	x	0.312	=	_____
2007	_____	x	0.294	=	_____
2008	_____	x	0.278	=	_____
2009	_____	x	0.262	=	_____
2010	_____	x	0.247	=	_____
2011	_____	x	0.233	=	_____

Attachment C

Costs of Water Conservation Project

Costs of Water Conservation Project

The costs of the project include all capital and operation and maintenance costs for the project. This includes costs of equipment, construction, labor, feasibility studies, engineering studies, environmental mitigation, etc. All costs of the project are to be included, even if some of those costs are to be borne by the applicant and will not be included in the loan. Debt service costs should not be included.

Cost Schedule

In order to discount total costs to their present value, all construction-related expenditures and operations and maintenance costs should be presented for the year in which they will occur. Any significant replacement costs expected to occur during the life of the project should also be entered (in 1985 dollars) for the year in which they are expected to occur. Please complete the following:

Year	Costs in 1985 Dollars		Discount Factor		Discounted Costs
1986	$ _____	x	1.000	=	$ _____
1987	_____	x	0.943	=	_____
1988	_____	x	0.890	=	_____
1989	_____	x	0.840	=	_____
1990	_____	x	0.792	=	_____
1991	_____	x	0.747	=	_____
1992	_____	x	0.705	=	_____
1993	_____	x	0.665	=	_____
1994	_____	x	0.627	=	_____
1995	_____	x	0.592	=	_____
1996	_____	x	0.558	=	_____
1997	_____	x	0.527	=	_____
1998	_____	x	0.497	=	_____

2027	_____	x	0.092	=	_____
2028	_____	x	0.087	=	_____
2029	_____	x	0.082	=	_____
2030	_____	x	0.077	=	_____
2031	_____	x	0.073	=	_____
2032	_____	x	0.069	=	_____
2033	_____	x	0.065	=	_____
2034	_____	x	0.061	=	_____
2035	_____	x	0.058	=	_____

Total Discounted Costs $ _____

Benefit Cost Ratio

The benefit cost ratio is determined by dividing the discounted benefits of the project (Attachment B) by the total discounted costs of the project (above).

$_____	÷	$_____	=	$_____
Discounted Benefits of the Project		Discounted Total Costs of the Project		Benefit-Cost Ratio

Calculations are subject to review and adjustment by the Department if incorrectly calculated. Please double check your math.

2ND QUARTER IRRIGATION SCHEDULING REPORT

LOCATION	CROP	ACRES	SITES
THISTLE MAIN 17	SUGAR BEETS	65	2
TRIFOLIUM 11-212	ALFALFA	134	1
TRIFOLIUM 11-213	COTTON	110	2
TRIFOLIUM 12-227	ALFALFA	70	1
TRIFOLIUM 12-227A	COTTON	30	2
TRIFOLIUM 12-228	SUGAR BEETS	72	2
TRIFOLIUM 9-179	COTTON	55	2
** Subtotal **		696	16
** GROWER SHANK, BOB			
MAPLE 26	WHEAT	155	1
MESQUITE 14	ALFALFA	100	1
MULLEN 21	ROW ALFALFA	145	1
MULLEN 24	WHEAT	143	1
MULLEN 25	ALFALFA	72	1
MYRTLE 19	ROW ALFALFA	145	1
OAK 22	WHEAT	145	1
** Subtotal **		905	7
** GROWER SMITH, J.R.			
Q-13	ALFALFA	95	1
Q-15	ALFALFA	98	1
** Subtotal **		193	2
** GROWER STRAHM, ERNIE			
ASH 156	ALFALFA	35	1
PALMETTO 23 & 24	SUGAR BEETS	144	2
PALMETTO 34	ALFALFA	72	1
PALMETTO 35	ALFALFA	72	1
PEAR 44	ALFALFA	133	1
TOWNSHIP 6	SUGAR BEETS	145	2
** Subtotal **		601	8
** GROWER TALBOT, GRADY			
SOUTH ALAMO 84	ALFALFA	72	1
SOUTH ALAMO 93	ALFALFA	120	1
** Subtotal **		192	2
** GROWER TAYLOR, JAMES D.			
D-14	BERMUDA GRASS	145	1
D-16	BERMUDA GRASS	145	1
E-14	ROW ALFALFA	100	1
MALVA 2-14	ALFALFA	72	1
MALVA 2-6	SUGAR BEETS	145	2
MALVA 2-6A	ROW ALFALFA	70	1
MULLEN 8-A	ROW ALFALFA	35	1
MUNYON 11	ROW ALFALFA	145	1

2N

7-10-85 INTERIM REPORT OF THE INCENTIVE COMMITTEE TO WCAB

The committee has reviewed many potential incentives. They have been divided into four categories: 1) services, 2) tailwater-based programs, 3) delivered-water based programs and 4) miscellaneous.

Since delivered water-based incentives encourage the use of less water--not just more efficient use of water--the committee recommends against their adoption as regular conservation measures.

Tailwater-based incentives provide the specific incentive to increase efficiency and reduce losses, which is the primary goal of water conservation. A major disadvantage to most such programs is the cost of measuring tailwater to verify that goals are attained, which is estimated to approximate $6-$7 million. This fixed cost is very large per acre foot unless large quantities are saved. For example if 50,000 AF are saved it amounts to $130/AF, if 100,000 then $65/AF, if 150,000 then $43/AF, if 200,000 then $33/AF. Tailwater is variously estimated at 300,000 to 400,000 AF/year. These figures do not include the cost of changes to the IID's system and procedures, which might be necessary before farmers could reduce tailwater by significant amounts. Specificly, changes would be needed to permit deliveries to more closely match field use, either by employing techniques which would greatly improve the accuracy of ordering and delivering water, or by modifying the delivery system and its operation to allow deliveries to be terminated at the time field needs are satisfied, without canal spills.

The two most promising types of tailwater-based programs are: one which pays a farmer for reducing tailwater within predetermined parameters and allows him to employ whatever means he chooses and to save as much water as is economically feasible; and one which pays a farmer for effectively operating a pumpback system to predetermined specifications.

Programs which provide a service to farmers and which would make it practical for them to conserve water without additional expense would also result in additional conservation. Services which are worthy of additional consideration include an irrigator training program, a program to train zanjeros and other appropriate water personnell, and a program by which water clerks could assist farmers to determine the amount of water needed for each irrigation, possibly in conjunction with a limited irrigation scheduling program.

Miscellaneous programs which may have promise include some form of program which would pay farmers to maintain a uniform grade with no more than a predetermined amount of main slope on the lower ends of their fields, and a program which would pay for changing the slope of a field to near dead-level.

RECOMMENDATIONS

Details of the irrigator and zanjero training programs should be developed so they can be implemented. Details of a pilot tailwater incentive, such as the $4.50 charge for delivered water and $30.00 charge for all tailwater, should be developed so it can be implemented on a trial basis to determine its effectiveness. Details should be developed for a program to allow users to order not more than 4 cfs for either the last or first 12 hours of the delivery day at a price of 1-1/2 times the ~~normal charge for~~ water received. The deadline should be changed to 4:30 pm from 3:00 pm for orders to change an order for the night half of a delivery. Additional analysis or testing will be needed before any other incentives could be recommended. Farmers installing their own electrice powered pumpback systems should not be charged for stand-by.

Twogood

STATE OF CALIFORNIA—RESOURCES AGENCY
GEORGE DEUKMEJIAN, *Governor*
DEPARTMENT OF WATER RESOURCES
1416 NINTH STREET, SACRAMENTO (916) 445-9248
O. BOX 942836 94236-0001

July 9, 1986

Mr. Charles L. Shreves
General Manager
Imperial Irrigation District
P. O. Box 937
Imperial, CA 92251

Dear Mr. Shreves:

This is to request additional information regarding your application for a loan from the Water Conservation Account of the Clean Water Bond Law of 1984.

We are requesting this information on your three applications which:

- Requested $670,000 to install a lateral interceptor system to collect excess water from five laterals.
- Requested $1,600,000 to construct Trifolium Reservoir to capture excess irrigation water.
- Requested $680,000 to construct the South Alamo Canal.

Your application which requested $2,050,000 for concrete lining did not have a high enough benefit to cost ratio to be included in the top group of applicants for loans. Proposition 44 which was passed on June third provides additional funding and you may want to consider reapplying for funding under that program.

As you know, you have been placed on the priority list in the top group of applicants based on the costs and benefits of your proposed project. In order to make the final determination of loan recipients, we will need to evaluate the following information on your agency's proposed project:

A. Project plans including:

1. Preliminary plans and specifications for the project including cost estimates.
2. Statement of who will be performing the work (applicant's staff or a contractor).
3. Construction inspection plan.
4. Construction schedule.
5. Plan to comply with the statutes concerning dam safety.

B. Plan to meet the requirements of the California Environmental Quality Act (CEQA). (The final contract must be accompanied by an approved final Environmental Impact Report (EIR) or Negative Declaration or a statement that the project is otherwise exempted from CEQA.)

C. A resolution by your agency's governing body authorizing an officer to apply and contract for a Clean Water Bond Law loan.

D. A statement describing all water rights affected by the proposed project.

E. Information on which the Department can assess your agency's ability to repay the loan including:

1. The specific statutory authority under which your agency may incur a debt obligation of the type and duration requested.
2. The actions that must be taken to meet the statutory requirements (issue bonds, revise rates, election, resolutions, etc.).
3. If your agency is under the jurisdiction of the District Securities Division of the State Treasurer's Office, you will need to submit a formal order of the District Securities Advisory Commission approving the loan. If your agency is not under jurisdiction, you must request a Division staff report, and submit favorable findings to the Department.
4. A plan to apply revenue sufficient to repay the loan. Specify the sources of funds to be applied and project the availability of such funds over the proposed term of the loan.
5. A forecast of revenues and expenses.
6. Financial statements for the most recent three fiscal years.
7. A list of cash reserves and planned uses of those reserves.
8. A proposed schedule for repayment of the loan, with a term not to exceed 25 years. Assume semi-annual payments due April 1 and October 1, and approximately 5 percent interest.
9. Any other financial documents which will help us determine your ability to repay the loan.

F. A summary of the competive bidding requirements imposed on your agency by statute or ordinance. Our contract will require competitive bidding on project components exceeding $10,000.